



**Bank of Israel**  
Payment and Settlement Systems

# Israel's Payment and Settlement Systems

**Red Book 2014**

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## Acronyms and abbreviations

ACH	Automated Clearing House <sup>1</sup>
ATM	Automated Teller Machine
BIS	Bank for International Settlements
CLS	Continuous Linked Settlement
CPMI	Committee on Payment and Market Infrastructures
CSD	Central Securities Depository
DVP	Delivery Versus Payment
EMV	Europay, MasterCard, and Visa
FIFO	First-In, First-Out
FMI	Financial Market Infrastructure
FSAP	Financial Sector Assessment Program
FX	Foreign Exchange
IBAN	International Bank Account Number
ICS	Intraday Credit System
IOSCO	International Organization of Securities Commissions
LSA	Loss Sharing Arrangement
NFC	Near Field Communication
PFMI	Principles for Financial Market Infrastructures
POS	Point Of Sale
PVP	Payment Versus Payment
RTGS	Real Time Gross Settlement <sup>2</sup>
SIPS	Systemically Important Payment Systems
SSS	Securities Settlement System
SWIFT	Society for Worldwide Interbank Financial Telecommunication

<sup>1</sup> In Israel the automated clearing house is known as Masav (a Hebrew acronym for Banks Clearing Center).

<sup>2</sup> In Israel the RTGS clearing house is known as the Zahav system (a Hebrew acronym for Real Time Gross Settlement).



## Preface

This report is meant to provide a comprehensive description of the main payment and settlement systems in Israel and to review their activity in 2014.

The Bank of Israel, like other central banks worldwide, works to increase the stability and efficiency of the country's payment and settlement systems. It does so in accordance with the Bank of Israel Law, 5770–2010 and the Payment Systems Law, 5768–2008. The stability of the payment systems is critical to maintaining the proper functioning of the real economy and the stability of financial activity in Israel, and to fulfilling the Bank of Israel's functions as the country's central bank. If the payment and settlement systems are not sufficiently reliable, they are liable to expose their users to risk and may even lead to the transfer of risk from one economic system to another. Furthermore, the growth in financial activity worldwide, as well as the increase in the volume of payments in international capital markets, has increased the importance of these systems. Therefore, strengthening them is likely to increase the economy's ability to deal with a financial crisis. Since the Bank of Israel wishes to increase financial stability, it works to enhance the safety, efficiency and reliability of the payment and settlement systems and takes steps to reduce the risks originating from those systems.

The Red Book has a similar structure to corresponding documents in other countries, and is composed of four chapters. The first chapter surveys the principal developments in this area during the year being reviewed. The second chapter focuses on the means of payment in the economy. The third chapter presents the institutional aspects that affect the payment systems and briefly describes the relevant entities. The fourth chapter describes the operations of the main payment and settlement systems in Israel. At the end of the document there is a glossary, as well as a statistical appendix presented according to the guidelines of the BIS.

## Chapter 1 - Main Developments in 2014

In 2014, the Bank of Israel continued to pursue steps to improve the efficiency of the payment systems operated by the Bank. The Bank of Israel also took steps to encourage the use of advanced, lower-risk electronic means of payment—including action to increase the amounts settled directly by the Zahav system—as well as regulatory action to ensure the efficiency and stability of payment and settlement systems. The survey of developments also includes 2015, with the aim of offering readers a comprehensive description of continuing developments.

### 1. The Payment and Settlement Systems

In 2014, the Bank of Israel continued to monitor payment system risks and explore measures to strengthen the controlled and designated controlled systems.<sup>1</sup> In 2008, the Bank of Israel declared the Zahav and CLS (Continuous Linked Settlement) systems as designated controlled systems subject to Bank of Israel oversight.<sup>2</sup> In July 2013, the Bank of Israel declared the following three systems as controlled systems, also subject to its oversight: Credits, Debits and Payment Transfers; Payment Card Services; and ATMs.<sup>3</sup> The first system is operated by Masav, while the other two systems are operated by Shva and offer essential retail services to the public, among other things.

In the surveyed year, the Bank of Israel continued to strengthen business continuity in general, and specifically the payment and settlement systems. In recent years, the Bank of Israel has established a series of arrangements and procedures designed to preserve and improve the ability of the payment and settlement systems under its responsibility to maintain business continuity in various scenarios. The Bank of Israel also invests efforts to continually improve and enhance redundancy of its systems and back-up systems for various elements, and continues to examine innovative means of doing so on business, technological, and logistics levels.

In 2014, the High Value Payment Systems Operational Resiliency Industry Group (HORIG), an international work group dealing with the business continuity of RTGS payment systems, was established. Its members include representatives of 10 central banks, including Israel, that operate RTGS systems. HORIG was established to discuss the challenges facing system operators, and to formulate rules and principles that promote their ability to maintain business continuity.

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<sup>1</sup> See Glossary.

<sup>2</sup> The Bank of Israel oversees CLS under an international supervisory group headed by the Federal Reserve.

<sup>3</sup> The Bank of Israel declared these controlled systems under the Payment Systems Law.



## 1.1 The Zahav system

Due to the systemic importance of the Zahav system, the Bank of Israel examines its stability through various measures, including (a) liquidity surplus—the difference between the daily average in the settlement accounts (current accounts and intra-day credit accounts) and the total debits in the system.<sup>4</sup> Surplus liquidity in the Zahav system reflects a state of surplus liquidity in current accounts and in the credit line that the Bank of Israel makes available to participants against collateral. This surplus allows participants to make payments even if their account is not credited. Therefore, high levels of surplus liquidity reduce the system's liquidity risk; (b) Concentration—the market share of the five most active financial institutions. The level of concentration reflects the volume of inter-bank operations (in terms of amounts) of the five most active participants.<sup>5</sup> Systemic risk rises as concentration increases; (c) Availability—the number of hours that the system was available out of total hours of operation. High availability attests to reliability and the ability to maintain business continuity.

Surplus liquidity in the Zahav system increased by 20 percent from 2013 to 2014. In 2014, the average daily surplus was NIS 75,942 million, and NIS 84,735 million in December 2014 (reflecting a 22 percent increase from December 2013). The change mainly stemmed from an increase in the credit accounts that the Bank of Israel makes available to banks, following a re-absorption of shekels concurrently with foreign exchange purchases. The increase also stemmed from the increase in the banks' current account, as the public channels less funds into deposits. Concentration in the Zahav system, based on total transaction value, was about 83 percent in both 2013 and 2014. System availability remains high since operations commenced in 2007. In 2014, system availability was 99.91 percent, in line with the rate in 2013, and consistent with accepted RTGS rates worldwide. To illustrate, in 2013, the RTGS system availability in the US was 99.96 percent, in Sweden it was 99.8 percent, and in Brazil it was 99.7 percent. The central banks in those countries set availability targets of between 99.8 and 99.9 percent, and Israel meets those targets.

As shown in Table 1, about 514,000 transactions, representing a total value of about NIS 79 trillion, were settled through the Zahav system in 2014. Compared to 2013, transactions in 2014 increased by 14.6 percent (from about 449,000) and total value increased by 10.7 percent (from about NIS 72 trillion). The average transaction amount in the system increased by about 3.4 percent.

The number of the interbank transactions settled through the Zahav system (Table 1) increased by about 15.77 percent between 2013 and 2014, while transaction amounts declined by about 2 percent. Figure 1 completes this picture. Figure 1 focuses on client

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<sup>4</sup> Excluding transactions entered into the system by the Bank of Israel's own departments and divisions.

<sup>5</sup> A bank's volume of activity in the Zahav system does not necessarily correlate with the bank's size.

transactions of less than NIS 1 million, and indicates an increase in the number of such transactions and in their amount. These changes may signal that the system is beginning to be more widespread among households and small and medium-sized businesses.

**Table 1**  
**Activity in the Zahav system, by component, 2008–14**

	Excluding CLS	Interbank <sup>a</sup>		Clearing houses	Bank of Israel	Total
		CLS only	Total			
<b>Amounts (NIS billion)</b>						
2008	5,894	508	6,402	7,506	7,966	21,874
2009	3,809	933	4,742	4,831	52,731	62,304
2010	4,575	1,097	5,672	4,294	65,818	75,784
2011	5,897	1,408	7,305	4,066	77,573	88,944
2012	5,109	1,606	6,715	3,515	69,637	79,867
2013	3,746	1,145	4,890	3,069	63,723	71,682
2014	3,675	1,119	4,794	3,012	71,527	79,333
<b>Yearly change (percent)</b>	<b>-1.90</b>	<b>-2.22</b>	<b>-1.97</b>	<b>-1.87</b>	<b>12.25</b>	<b>10.67</b>
<b>Transactions (units)</b>						
2008	185,584	7,913	193,497	8,948	13,959	216,404
2009	156,430	10,427	166,857	9,398	21,394	197,649
2010	217,872	10,774	228,646	10,707	21,864	261,217
2011	305,138	10,813	315,951	11,068	22,591	349,610
2012	355,821	10,632	366,453	12,184	21,693	400,330
2013	406,627	10,871	417,498	10,768	20,602	448,868
2014	471,592	11,765	483,357	10,206	20,690	514,253
<b>Yearly change (percent)</b>	<b>15.98</b>	<b>8.22</b>	<b>15.77</b>	<b>-5.22</b>	<b>0.43</b>	<b>14.57</b>

<sup>a</sup> Shekel activity in CLS began on May 26, 2008

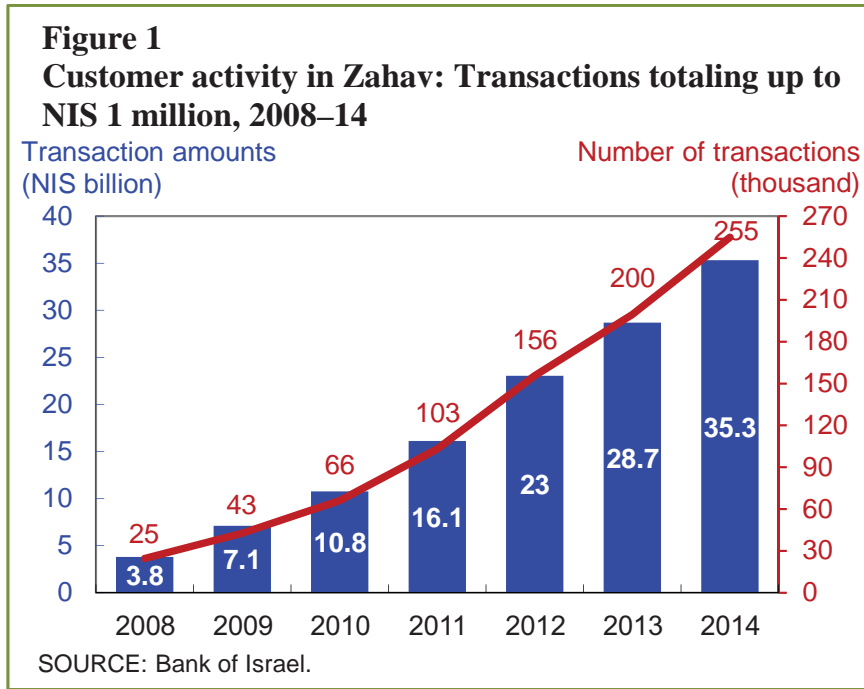
SOURCE: Bank of Israel.

The total volume of financial activity settled through Zahav declined this year by about 1.9 percent and declined by about 3.6 percent in the TASE settlement systems.<sup>6</sup> This decline was partly due to a drop in the amount of collateral held by Zahav participants in the Bank of Israel account at the Stock Exchange. Excluding activity related to collateral, the value of activity in the TASE settlement systems increased by 4.5 percent. Total value of financial activity in the Paper-based Clearing House (Checks) declined by about 1.3 percent between 2013 and 2014. Total activity in the Masav system increased by about 4.5 percent.<sup>7</sup>

Transfers through the Zahav system offer numerous advantages for customers, including efficient and reliable final settlement of payments in real time, and constitute a substitute for cash. In January 2015, an amendment to the Banking (Service to the Customer)(Fees)

<sup>6</sup> Including the amounts transferred by the TASE clearing houses to the intraday credit accounts of the banks in the Zahav system.

<sup>7</sup> The settlement systems are described in Chapter 4 – The Payment and Settlement Systems.



Rules, 5768–2008 was published, which set out that when a bank transfers sums of up to NIS 1 million through the Zahav system, the fee charged may not exceed the fee for a single teller-executed transaction (about NIS 6).<sup>8</sup> The amendment came into force on February 1, 2015. Reducing the fees for this service may increase the Zahav system's accessibility to the public and may encourage the public to use the system to perform those transactions that require real-time payment and finality, even in smaller sums.

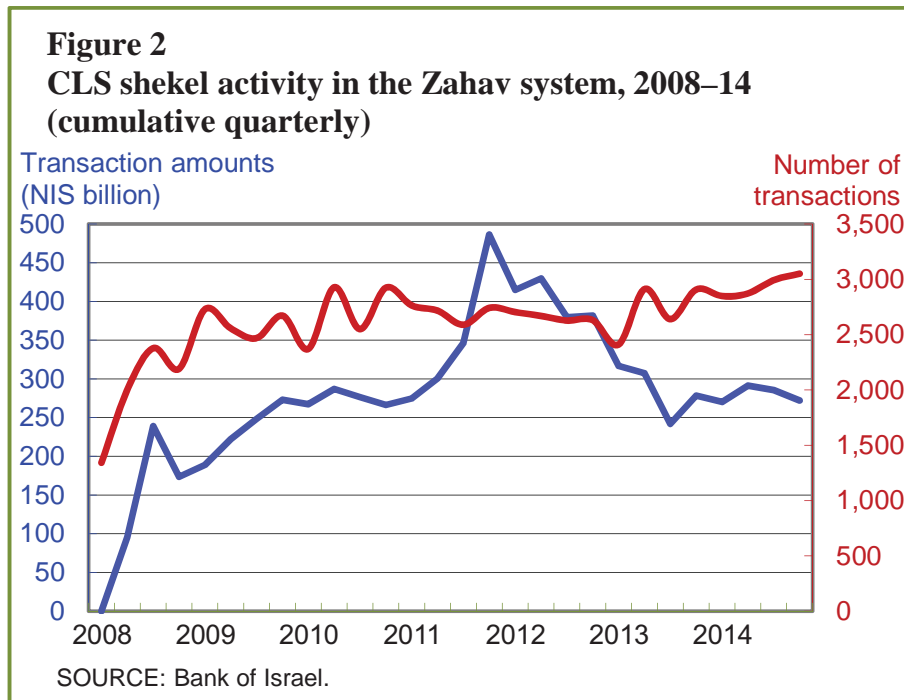
## 1.2 CLS Bank

CLS Bank operates a large multi-currency settlement system designed to reduce the settlement risk entailed in foreign exchange transactions, and offers settlement services in 17 currencies<sup>9</sup>, including the shekel. The bank settles the main foreign exchange transactions performed in Israel.<sup>10</sup> In 2014, such transactions totaled about NIS 1,119 billion, a decline of 2.2 percent from the previous year. The number of transactions settled in CLS increased by about 8.2 percent this year (Figure 2).

<sup>8</sup> The provision applies to customers (individuals and small businesses) as defined in Section 9i(f) of the Banking Law (Service to Customers), 5741–1981.

<sup>9</sup> Mexican peso, Canadian dollar, pound sterling, new Israeli shekel, Japanese yen, South Korean won, Danish krone, euro, US dollar, Singapore dollar, Norwegian krone, Australian dollar, New Zealand dollar, South African rand, Swedish krona, Swiss franc, and Hong Kong dollar.

<sup>10</sup> Transactions involving the shekel.



### 1.3 The Banks' Clearing House

#### 1.3.1 The Paper-based Clearing House (Checks)

Checks, manual drafts, and collection vouchers are settled in the Paper-based Clearing House. To enhance its efficiency, the Bank of Israel continued to promote the Electronic Check Clearing Law (see Box 1) and took steps to reduce manual settlement in the Paper-based Clearing House. Due to the high risks that manual settlement entails, the Bank of Israel has taken and continues to take steps to terminate manual settlement. To this end, the Bank of Israel also decided to modify the procedures for corporate securities issuance settlement, which are performed in the manual settlement session.

During the surveyed year, activity in the Paper-based Clearing House totaled about NIS 941 billion, compared with about NIS 934 billion in 2013, reflecting an increase of about 0.7 percent. The number of transactions declined from about 121,000 to about 118,000, a decline of about 2.3 percent.

**Box 1**

**Promoting the Electronic Check Clearing Law (“Check Truncation”)**

In order to transition from physical to electronic clearing of checks, checks are truncated at the presenting bank (the collecting bank, which is the bank in which the checks are deposited) and their digital images are sent as files to the issuing bank (the bank to which the checks are presented for payment). This transition enhances the efficiency of check clearing and offers potentially significant cost savings. Electronic check clearing eliminates the need to transport checks from the presenting bank to the paying bank (and back, in the event of a dishonored check), and the need to store and retrieve the checks. Electronic check clearing also reduces the time that elapses from the time the check is presented to the time the customer is credited.

Several countries have recently instituted check truncation and have enacted rules that regulate the operations of the banking system in the area of electronic check clearing. To provide the legal and regulatory foundation for check truncation, legislation is needed to regulate the following issues: (a) electronic clearing of checks that entails no physical presentation; (b) dishonored checks that are returned to the customer; (c) admissibility of electronic checks in legal proceedings; and (d) storage of checks.

To this end, the Electronic Check Clearing Law 5775–2015 was proposed. The bill was published in *Reshumot* on June 29, 2015, and approved in First Reading by the Knesset plenum on July 6, 2015. Legislation will continue throughout 2015.

Total manual drafts increased by about 6.4 percent this year, compared with an increase of about 15 percent in 2013. About 90 percent of the manual debit amounts were due to the settlement of funds from the issuance of corporate securities. This explains the increase in debit amounts in manual clearing, which corresponded to the increase in the issuance of corporate securities.<sup>11</sup> The Bank of Israel—together with the Israel Securities Authority, the TASE and other interested parties—is working to promote a comprehensive reform in the clearing process for corporate security issuances in order to reduce settlement risks. Among other outcomes, the reform will lead to a shift from manual clearing to electronic clearing, which will markedly reduce the amount of debits cleared manually.

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<sup>11</sup> The Tel Aviv Stock Exchange, 2013 Annual Review, Table 5: Capital raised by security types, 2004–2013.

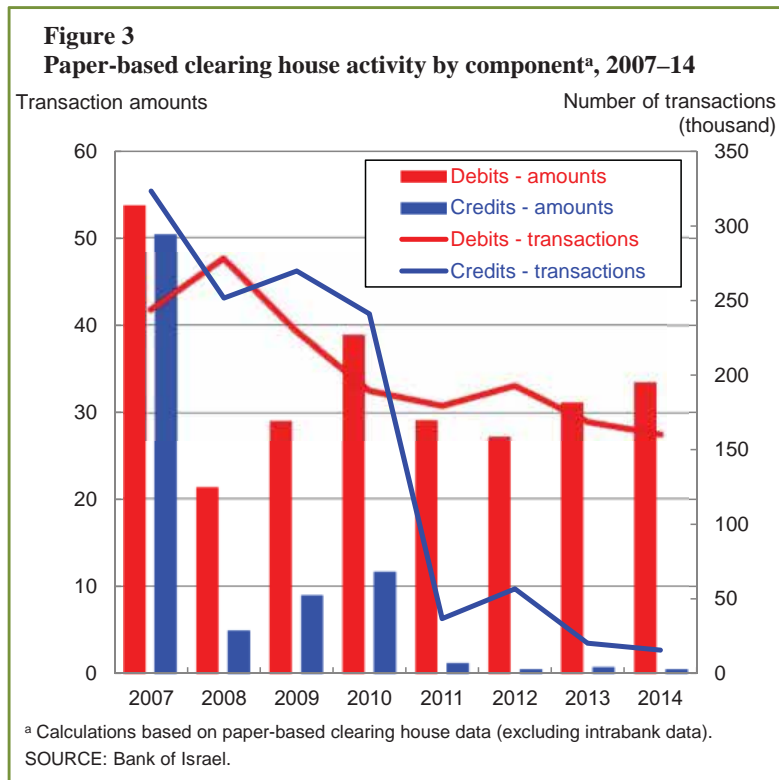
**Table 2**  
**Paper-based clearing house, by component, 2007–14**

	Manual drafts			Checks			Paper-based clearing house total
	Debits	Credits	Total	Presentations <sup>a</sup>	Returns	Total	
2007	55	51	106	749	24	773	879
2008	21	5	26	776	24	800	826
2009	29	9	38	727	22	749	787
2010	39	12	51	784	23	807	858
2011	29	1	30	822	24	846	877
2012	27	0.5	28	835	25	860	888
2013	31	0.8	32	876	26	902	934
2014	34	0.5	34	881	26	907	941
<b>Yearly change (percent)</b>	<b>7.43</b>	<b>-34.44</b>	<b>6.39</b>	<b>0.58</b>	<b>-1.48</b>	<b>0.52</b>	<b>0.72</b>
Transactions (thousand)							
2007 <sup>b</sup>				148,254	3,508	151,762	151,762
2008	252	233	485	131,739	3,609	135,348	135,833
2009	229	270	499	121,258	3,249	124,507	125,006
2010	190	241	431	121,645	2,963	124,608	125,039
2011	180	37	217	120,583	2,883	123,466	123,683
2012	193	57	250	119,094	2,804	121,898	122,148
2013	169	20	189	117,720	2,647	120,366	120,555
2014	161	16	176	115,148	2,499	117,647	117,823
<b>Yearly change (percent)</b>	<b>-5.01</b>	<b>-22.76</b>	<b>-6.91</b>	<b>-2.18</b>	<b>-5.59</b>	<b>-2.26</b>	<b>-2.27</b>

<sup>a</sup> Including electronic presentation of collection vouchers.

<sup>b</sup> Data on the number of manual drafts were not collected until 2008.

SOURCE: Bank of Israel.



**Box 2**

**Inclusion of the Diamond Denominated Accounts Agreement in the Banks' Clearing House Rules**

Several bank branches provide interbank clearing services for diamond-denominated accounts, and such work practices include check clearing, bank transfer orders, and foreign currency (USD) payment orders. While these procedures have been previously performed according to accepted practice among bank branches, the Israeli Antitrust Authority demands that inter-branch procedures be defined in written arrangements. In response, the banks that administer these branches drafted a provisional agreement, which was approved by the Antitrust Authority for a period of 18 months (from September 2013 to March 2015). The Antitrust Authority conditioned its approval on the stipulation that the agreement would be integrated into the Banks' Clearing House Rules before the end of the aforementioned period. As part of the preparations for incorporating the diamond denominated accounts rules into the Banks' Clearing House rules, a sub-committee of the Banks' Clearing House Committee was established, including among its members the banks that administer diamond branches. The sub-committee drafted a new chapter for the Banks' Clearing House Rules regarding settlement of Diamond Denominated Accounts (known by their Hebrew acronym as HANY accounts). The chapter defines interbank work procedures, a uniform check standard, and check transfer procedures. These rules were approved in January 2015 and from this date onward they are binding on the banks

**1.3.2 Masav**

Electronic credits and debits are performed in the Masav system. (Electronic credits are also carried out in the Zahav system.) Table 3 indicates that credits account for about 82.2 percent of total payments settled in Masav.

Activity in Masav increased this year, which is the result of increases in both credits and debits: the total value of debits increased by about 12.5 percent during the surveyed year (compared with about 7.6 percent in the previous year), and the total value of credits increased by about 3.5 percent (compared with about 4.5 percent in the previous year).

There are about 26,109 institutions participating in Masav, including banking corporations, the Postal Bank, government ministries and public institutions, as well as other clearing

institutions such as credit card companies. All participants in Masav are direct participants, meaning they represent themselves. Between 2013 and 2014, the number of organizations operating in Masav increased by about 2.8 percent.

**Table 3**  
**Masav by component, 2007–14**

	Credits	Debits	Credit returns <sup>a</sup>	Debit returns	Total
<b>Amounts (NIS billion)</b>					
2007	5,940	235	-	3.9	6,179
2008	1,473	261	-	4.9	1,739
2009	1,503	271	-	5.5	1,779
2010	1,635	317	1.0	4.6	1,958
2011	1,752	342	1.0	4.7	2,100
2012	1,911	364	0.8	4.7	2,280
2013	1,998	392	0.9	4.6	2,395
2014	2,067	440	1.1	4.7	2,513
<b>Yearly change (percent)</b>	<b>3.46</b>	<b>12.51</b>	<b>13.03</b>	<b>2.70</b>	<b>4.94</b>
<b>Transactions (thousand)</b>					
2007	92,955	146,116	-	4,535	243,606
2008	96,316	152,892	-	5,003	254,211
2009	97,478	157,749	-	5,395	260,622
2010	103,326	168,186	104	4,926	276,541
2011	111,055	174,125	108	4,446	289,734
2012	119,100	180,180	109	4,295	303,684
2013	125,651	187,204	136	4,188	317,179
2014	130,976	190,645	162	4,221	326,003
<b>Yearly change (percent)</b>	<b>4.24</b>	<b>1.84</b>	<b>18.61</b>	<b>0.79</b>	<b>2.78</b>

<sup>a</sup> Credit returns began being settled in Masav instead of in the paper-based clearing house in December 2009.

SOURCE: Masav.

## 1.4 The TASE Clearing Houses

The TASE clearing houses—the securities clearing house and the Maof clearing house—settle the results of trading on the stock exchange. Securities are settled in the TASE clearing houses immediately after the transfer of funds has been settled between the members of the stock exchange in the Zahav system.

Like most stock exchanges worldwide, trading volume on the Israeli stock exchange also increased. Average daily trading volume in shares increased in 2014 to about NIS 1.2 billion (an increase of about 3.5 percent from the previous year). Average daily trading volume in the bond market totaled about NIS 4.2 billion (a decline of about 2.2 percent from the previous year). Table 4 shows that in 2014, the annual volume of securities traded on the TASE was about NIS 1,477 billion, compared with about NIS 1,486 billion in the previous year (a decline of about 0.7 percent).



**Table 4**  
**Securities trading volumes, 2006–14**

	Shares and convertibles	Government	Bonds Other	Total	<i>Makam</i>	Total
	Amounts (NIS billion)					
2006	360	356	68	424	198	982
2007	506	636	165	801	207	1,514
2008	481	761	224	985	192	1,658
2009	423	789	223	1,012	160	1,595
2010	498	579	218	797	291	1,586
2011	422	703	217	920	287	1,629
2012	264	748	247	995	155	1,414
2013	286	810	249	1,059	141	1,486
2014	297	774	249	1,023	157	1,477
<b>Yearly change (percent)</b>	<b>3.92</b>	<b>-4.52</b>	<b>0.16</b>	<b>-3.42</b>	<b>10.90</b>	<b>-0.65</b>

SOURCE: Tel Aviv Stock Exchange.

The ISA and the management of TASE developed a strategic program to increase trading volume on the local stock exchange and to preserve its status as the primary source for raising capital in Israel. As part of this program, the Committee to Improve Trade Efficiency and Liquidity was established. Its interim report, submitted in September 2013, contained 19 proposals. The most prominent of these proposals are: trade on Fridays in lieu of Sundays, launch new products and orders, and modify the ownership structure of TASE. The proposals concerning a change in ownership structure are described in a draft law prepared by the ISA and published for public comments. These proposals include, among other things, a proposal to demutualize the TASE, that is, to convert the TASE from a company limited by the guarantee of its members, with no owners' capital (a nonprofit company), to a company that may issue share capital and distribute dividends. After the issue, current TASE members would no longer be the primary shareholders and would render operating services only.

The Committee submitted its final conclusions in early April 2014.

## 2. Regulation

The Bank of Israel is taking a variety of steps to increase competition and promote innovation in the area of payment (credit or debit) cards, in accordance with the recommendations of the Committee to Examine Reducing the Use of Cash (the Locker Committee), the Cost of Living Cabinet, and the interim report on the execution sequence of payment card transactions, in coordination with the Antitrust Authority. The Bank of Israel promotes three main areas: regulation of merchant acquiring licenses, extending the use of immediate debit transactions and prepaid card transactions, and regulation of operations in the area of payment cards (debit and credit cards of all kinds).

### **Payment card payment network—policy for licensing merchant acquirers**

To allow nonbank merchant acquirers to receive payment card switching services<sup>12</sup>, the Bank of Israel is promoting improvements in Shva's technological systems. The Banking Supervision Department is also taking steps to amend the Banking (Licensing) Law, 5741–1981, to allow licensed nonbank merchant acquirers to connect to the payment card switch operated by Shva.

### **Steps to implement payment cards in Israel and increase competition among payment cards**

The Bank of Israel established an interdepartmental team led by the Banking Supervision Department, whose members include representatives of the Payment Systems Oversight Unit of the Accounting, Payment and Settlement Systems Department. This team recommended that debit cards would be introduced to the market through a separate card that allows its holder to choose the most suitable type of payment for the holder. It was also recommended to expand the distribution of debit cards by integrating such distribution with an educational program for consumers and businesses on the nature of this product and its uses.

In line with the team's recommendations, the Bank of Israel took the following steps to promote the use of immediate debit transactions and prepaid card transactions:<sup>13</sup>

- A draft order of the Governor of the Bank of Israel was published, declaring that the interchange fee for immediate debit transactions is subject to supervision under sections 9K and 9L of the Banking (Service to the Customer) Law, 5741–1981.<sup>14</sup> The interchange fee will be set at 0.3 percent for a period of one year<sup>15</sup>;
- It was determined that debit cards (immediate debit cards) will be considered an off-the-shelf banking product and will become an integral part of current account management;
- It is prohibited to charge a customer-executed transaction fee for any use of a debit card;
- A draft guideline was published requiring the banks to contact, within a defined timeframe, all existing customers with current accounts to offer them debit cards. Customers that hold a deferred debit card issued by the bank will be able to receive a debit card without any additional card fees, at least during the initial card holding cycle (the first 3 years). The banks will also be required to offer the debit card to any customer opening a current account;

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<sup>12</sup> For more information on switching services, see Chapter 4, Section 2.6.

<sup>13</sup> <http://www.boi.org.il/he/BankingSupervision/Survey/DocLib1/report-d.pdf>

<sup>14</sup> The Banking (Service to the Customer)(Oversight of Services Rendered by Issuers to Acquirers with Respect to Interchange Settlement of Immediate Debit Transactions)(Temporary Order) Order, 5775–2015 came into effect on August 23, 2015.

<sup>15</sup> In this period the Antitrust Commissioner's authority to determine a separate interchange fee for immediate debit transactions will be defined, in accordance with the Draft Law to Reduce the Use of Cash.

- A draft amendment to Proper Conduct of Banking Business Directive 470 was published. The amendment regulates the dates on which immediate debit transaction funds are transferred, to ensure that the entire payment chain—from the debit of the cardholder to the credit to the merchant—takes place soon after the transaction and not later than three business days after presentation of the amount for payment. Furthermore, the amendment regulates the disclosure of debit card transactions as part of the information appearing on the cardholder's current account statement (separate disclosure of each transaction, including the date, amount, and merchant).

These steps were designed, among other things, to expand the distribution and use of debits cards, increase competition in this area, generate cost savings for merchants and customers, and reduce the use of cash. These steps will be taken concurrently with the continued use of deferred debit cards, offering benefits to households and merchants. The Bank of Israel will monitor the issuance and use of debit cards in order to examine whether additional action is necessary.

### **Steps to promote the establishment of another switch for payment card transaction execution**

In mid-2014, the Bank of Israel established an interdepartmental team, led by the Payment Systems Oversight Unit of the Accounting, Payment and Settlement Systems Department, with the participation of the Banking Supervision Department. The team conducted an extensive examination of all the links in the transaction processing chain, including a study of the switch. The team published an interim report on August 3, 2015. The following are the main recommendations of the team<sup>16</sup>:

- **Expand the activity and participation of the National Payments Council** to additional relevant entities, in accordance with the World Bank's model. The Council is an advisory body that outlines strategy through collaboration with involved entities and with optimal transparency.
- **Establish a Payment Card Committee** that will regulate and define the execution of payment card transactions in a manner that increases competition and efficiency while maintaining stability and safety.
- **Regulate the principles and rules of developing the protocol<sup>17</sup> and its use.** The Payment Card Committee will regulate the principles and rules for developing the protocol and its use, and ensure the protocol's transparency and accessibility to all relevant entities.
- **Modular implementation of the protocol**, which will allow choosing and implementing a terminal's uses and functions according to users' needs.

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<sup>16</sup> <http://www.boi.org.il/he/NewsAndPublications/PressReleases/Pages/03-08-2015-SwitchReport.aspx>

<sup>17</sup> The technological specifications and structure of the message used to transfer the transaction among the various participants in the chain.

- **Ensure that the terminals support multiple applications and of contactless transactions**, which will allow new players to enter the market, and will facilitate the development of advanced means of payment and other routing measures.
- **Execution of debit card transactions on the ATM switch** should not be obligatory, as the contribution of adding this option is doubtful.
- **Establishing a new central clearing interface for transactions on the ATM switch** in order to simplify the clearing process, reduce costs and make it easier for a new participant to join the system.

Implementing the recommendations will facilitate the entry of new participants to the payment card market, will increase competition while increasing the stability and efficiency of the payment system, and will support these developments. The changes anticipated as a result of the recommendations will also support the development of advanced means of payment.

### **The EMV standard**

The Bank of Israel attributes great importance to adoption of the EMV standard, the accepted international standard for securing transactions made through payment cards in POS payment terminals. Adopting the standard is designed, among other things, to reduce the potential for magnetic-card-based fraud (including counterfeiting and copying cards), reinforce public trust in payment cards, promote innovation in the area of payments, and encourage competition in clearing payment-card-based transactions. The use of EMV-compliant “smart cards” will also allow customers outside Israel to use a card in accordance with international standards. Accordingly, the Banking Supervision Department published an outline for implementing the EMV standard, including a transition to the issue of smart cards and the replacement of payment terminals and ATMs with EMV-compliant terminals (“smart terminals”).

### **PFMI – Principles for Financial Market Infrastructures**

The recognition of the power and extent of settlements risks led the Bank for International Settlements to establish international standards for payment and settlement systems. In April 2012, the Principles for Financial Market Infrastructures (PFMI) were published.<sup>18</sup> The report establishes 24 international principles that will apply to all financial infrastructures, including payment systems and securities deposit and settlement systems. These principles united, expanded, and strengthened the systems of standards that applied to such systems in the past. They establish standards in various areas, including reference to the interdependence and ties between payment systems, which can lead to increased systemic risk. The new report also expands the responsibilities of oversight entities—the central bank, financial market overseers, and other oversight authorities—with regard to

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<sup>18</sup> The new document of principles was drafted by the Committee on Payments and Market Infrastructures (CPMI) and the technical committee of the International Organization of Securities Commissions (IOSCO). <http://www.bis.org/publ/cpss101a.pdf>

regulation, oversight and control of financial market infrastructures, when they implement the principles.

In November 2014, the Bank of Israel, as the overseer of payment systems in Israel, announced the adoption of the PFMI principles<sup>19</sup>, and it is taking steps to apply them to the financial market infrastructures in Israel. Identifying the risks inherent in the operation of the financial infrastructures, and taking the necessary measures to reduce those risks in accordance with the PFMI principles, will lead to strengthening the stability and efficiency of those infrastructures. The announcement was made in coordination with the ISA, the Capital Market Division of the Ministry of Finance, and the Ministry of Communications.<sup>20</sup>

### **FATCA – Foreign Account Tax Compliance Act**

The US government established the FATCA provisions in 2010, within the framework of a law known as the HIRE (Hiring Incentives to Restore Employment) Act. The goal of the provisions is to expand the information base on accounts at financial institutions outside the US, and thus to enhance tax collection from them, as part of the global battle waged by countries across the world, including Israel, against tax evasion and unreported capital. In July 2014, Israel and the United States signed an agreement to enhance international enforcement of tax laws and to implement the FATCA provisions. This agreement regulates the transfer of information from the Israel Tax Authority—the agency that receives the information from Israeli financial entities—to the IRS, and also allows the Israel Tax Authority to receive information from the IRS on income in US accounts held by Israeli residents.

As countries across the world are increasing their enforcement against financial institutions in order to identify their citizens' tax-liable funds, the Bank of Israel promoted several directives and measures designed to ensure that the banks carefully manage their cross-border risks and follow the FATCA provisions. The banking system is required to continue to take steps to implement a risk-based approach to identify activities or customers that may expose them to risks related to the abuse of the banking system or complicity in customers' offenses, since the materialization of such risks has significant implications for the system's operation.

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<sup>19</sup> For the announcement (in Hebrew), see the Bank of Israel website.

<sup>20</sup> In its capacity as overseer of the TASE clearing systems under the Securities Law, the ISA decided to apply the new principles to these systems to ensure their stability and efficiency.

### 3. Means of Payment

Action has been taken in recent years to reduce the use of cash and negotiable checks, concurrently with action to promote the use of advanced electronic means of payment.

The more innovative means of payment typically offer flexibility and convenience and expedite the payment and customer identification process, and also reduce transaction costs. Entrepreneurs, public entities, and government offices constantly offer new payment solutions, and present various options using new access devices and alternative access channels, as well as potential improvements in payment efficiency and security. Leading innovations and developments in recent years include near field communication (NFC) technologies, mobile POS devices, intrabank check deposits via mobile devices, cash withdrawals without an ATM card (CNP—card not present—transaction, where a code is received on a mobile phone), mobile payment for public transportation, Internet payments, cellular wallets and payment applications for mobile computers and phones.<sup>21</sup> Concurrently with the changes, reforms, and technological developments in payment systems in Israel in recent years, several related committees were established. The Committee to Examine Reducing the Use of Cash in Israel's Economy (the Locker Committee), the most important of these, was established following a government decision in September 2013. Its recommendations, published in July 2014, included, among other things, a policy outline to gradually reduce the use of cash and other paper-based means of payment, as well as a proposal to grant incentives and remove obstacles to encourage the use of advanced electronic means of payment.

#### **Box 3** **The Means of Payment Reform**

On September 17, 2013, the government decided to establish a committee headed by Harel Locker, Director General of the Prime Minister's Office, with the aim of reducing the shadow economy and money laundering, and facilitating the use of efficient advanced means of payment. In July 2014, the Locker Committee published a final report that included public comments, and on October 22, 2014, the government approved its recommendations.

The reform recommended by the committee was based on three elements: (1) Both in Israel and worldwide, it is recognized that cash is a significant factor in encouraging the shadow economy. On the other hand, it is a basic means of payment in the economy, and is used by law-abiding citizens—the vast majority of the public. Accordingly, the use of cash should be reduced but not eliminated. (2)

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<sup>21</sup> Developments that are widespread in Israel include cellular wallets arranged by banks and credit card companies, and mobile payment applications for transportation, parking and restaurant payments.

The use of checks in Israel is relatively widespread, especially endorsed checks. This encourages the shadow economy. Therefore, steps should be taken to restrict endorsements and introduce modifications that reduce the risks entailed in the use of checks, although there is no intention to eliminate the use of checks entirely. (3) The use of cash and negotiable checks should be reduced by promoting the use of advanced electronic means of payment, including debit cards and identifiable prepaid cards.

Each reform element contains several recommendations. The main recommendations are listed below.

**1. The use of cash should be restricted** as follows:

- In the immediate term – prohibit dealers from paying or receiving cash in sums exceeding NIS 10,000; prohibit individuals who are not dealers from paying a dealer any sum exceeding NIS 10,000 in cash; prohibit individuals who are not dealers from accepting, in a transaction, any sum exceeding NIS 50,000 in cash; and prohibit individuals who are not dealers from paying any sum exceeding NIS 50,000 in cash to another individual who is not a dealer.
- In the long term – to grant the Minister of Finance the authority to reduce these amounts from NIS 10,000 to NIS 5,000 and from NIS 50,000 to NIS 15,000.
- With respect to the sale of second-hand cars, where the buyer and seller are not dealers, the restrictions will not be revised and will remain NIS 50,000.
- A violation of the aforementioned prohibitions shall be considered a criminal offense and subject to an administrative fine, for individuals who are not dealers, or a monetary sanction, for dealers. Transactions in sums exceeding these limits shall be made by check, bank transfer, debit card, or prepaid card.
- Tourists may make cash purchases in unlimited sums, and Israeli sellers will report to the tax authority any sales in sums exceeding NIS 25,000.

**2. Endorsement of third-party checks should be limited**, as follows:

- In the immediate term – permit only one endorsement on checks exceeding NIS 10,000, on condition that the endorsee of the check records his details on the back of the check. Individuals who are not dealers should not accept checks in sums exceeding NIS 5,000 if their name is not written on it as the payee or endorsee.
- In the long-term – For the purpose of obtaining credit, only one endorsement on a check of any amount will be permitted, provided that the credit is granted by a supervised financial entity, banking corporation, or the Postal Bank.
- Payment using a blank check will be prohibited.

**3. The use of electronic means of payment should be promoted** as follows:

- Take significant steps, including the use of incentives and the removal of obstacles, to promote the use of advanced electronic means of payment.
- Set out rules designed to develop means of payment systems and payment and settlement systems in a manner that encourages the public to increase the use of secure, efficient and advanced electronic means of payment. At the same time, attention should be given to the security of the means of payment in order to protect them from risks such as information theft, forgery, fraud, and cyber-attacks.

On January 4, 2015, a legislative memorandum was published on the Reducing the Use of Cash Law, 5775–2015, and on July 28, 2015, the Knesset plenum approved the bill in the First Reading. Legislation will continue throughout 2015.

In accordance with the Locker Committee recommendations, an interministerial committee on advanced means of payment was established in March 2014. The committee is headed by the Director of the Accounting, Payment and Settlement Systems Department at the Bank of Israel. The committee's goal is to regulate the relevant aspects of the field of advanced means of payment—information security, money laundering and terrorism financing, business continuity, competition, stability, and efficiency—in order to encourage the public to increase the use of such payment means. The committee is expected to publish for public comments a report outlining the guidelines for promoting the use of advanced means of payment toward the end of 2015.

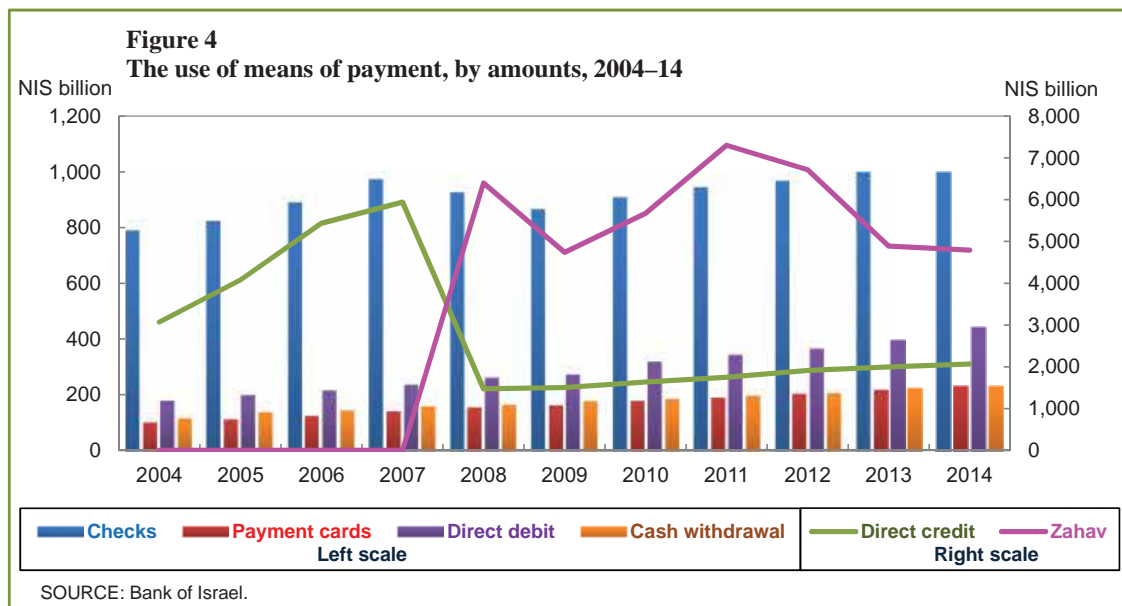


## Chapter 2: Means of Payment Available to the Public

The principal means of payment available to the general public in Israel are cash, paper-based payments (checks and vouchers), direct debit (via Masav), direct credit (via Masav and Zahav), payment cards, Internet payments, and payments by means of cellular telephones.

The choice of a means of payment reflects an agreement on its use between the parties to a transaction. The main features that influence this choice include: convenience—ease of use for the payer and the beneficiary; availability—the conditions and timeframe for the money to be accessible (the beneficiary would like to know when funds will be available for use); security—reflected mainly in the ability to verify the information about the payer or the beneficiary, the maintenance of confidentiality, the reliability of that means of payment, and the ability to prove that the payment has been made; and cost—in terms of the fees collected from the payer or the beneficiary and the liquidity costs.

Figure 4 illustrates the development of the use of the most popular means of payment in Israel in recent years, by amounts paid. The Figure shows that the total payment value declined after the Zahav system came into use (in late 2007), and that the use of payment cards increased gradually from 2004 to 2014.



### 1. Paper-based means of payment

Paper-based means of payment include cash, vouchers, and checks.

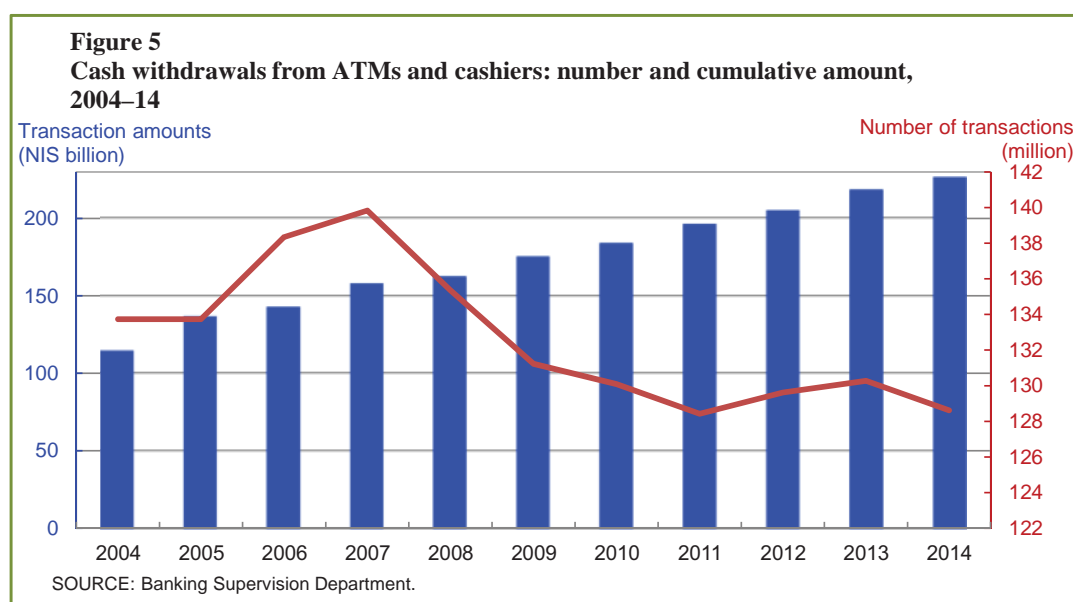
## 1.1 Cash

Banknotes and coins are the most liquid means of payment. In Israel, the Bank of Israel issues banknotes in denominations of NIS 20, 50, 100 and 200, and coins in denominations of NIS ½, 1, 2, 5 and 10, as well as 10 agorot (NIS 0.10).

In 2014, total banknotes and coins in circulation increased, against the backdrop of low interest rates in recent years. At the end of 2014, total currency in circulation was about NIS 63.2 billion, up from about NIS 57.5 billion at end 2013 (an increase of 9.8 percent, compared with an increase of 5 percent in the previous year).<sup>22</sup>

In addition, the use of cash withdrawal means has continued to grow, while the number of options for withdrawing cash has also grown: The number of bank ATMs increased by 5.6 percent between 2013 and 2014<sup>23</sup>, and alternative cash withdrawal options became available in supermarket chains, in public places, and in gas station convenience stores throughout the country. Businesses are increasingly installing privately owned cash withdrawal machines on their premises.

The number of cash withdrawals has remained steady in the past four years after a downward trend (from 140 million transactions in 2007 to 128.6 million in 2014), while the amounts withdrawn have increased consistently (from NIS 158 billion in 2007 to NIS 226 billion in 2014).<sup>24</sup>



<sup>22</sup> Total value in circulation includes the cash held by the public, cash that banking corporations hold in vaults, and cash held by nonresidents (this phenomenon is more typical of the eurozone and the US, because their currencies are used outside their borders).

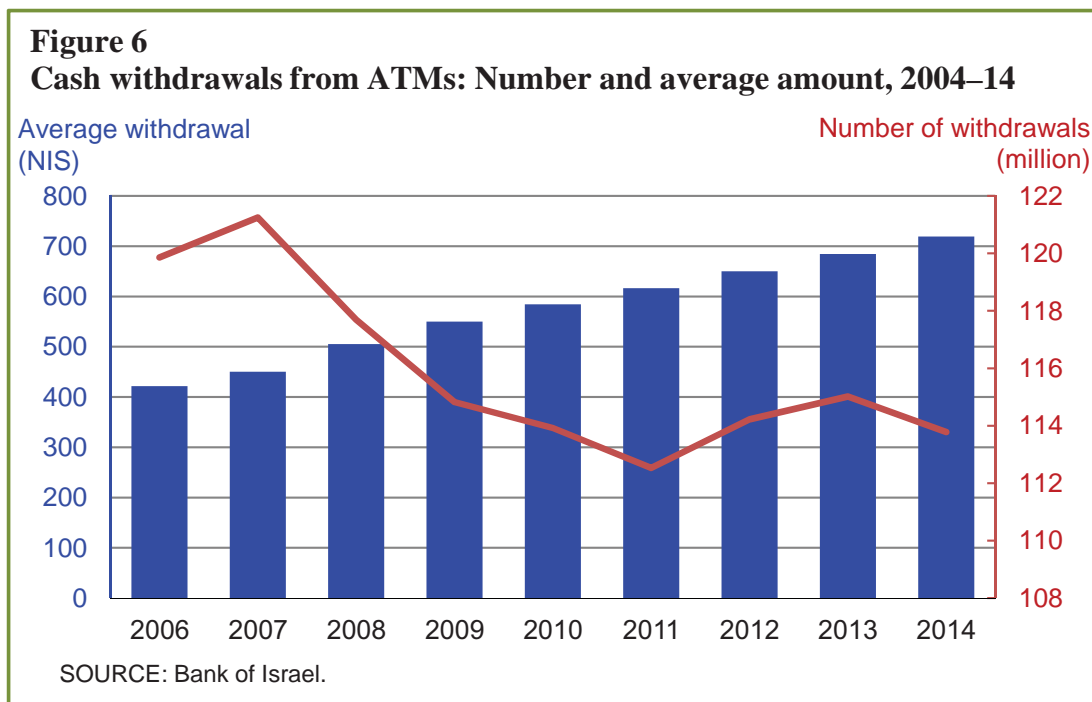
<sup>23</sup> Excluding ATMs owned by private companies and ATMs that were sold by Shva to a private company in late 2013.

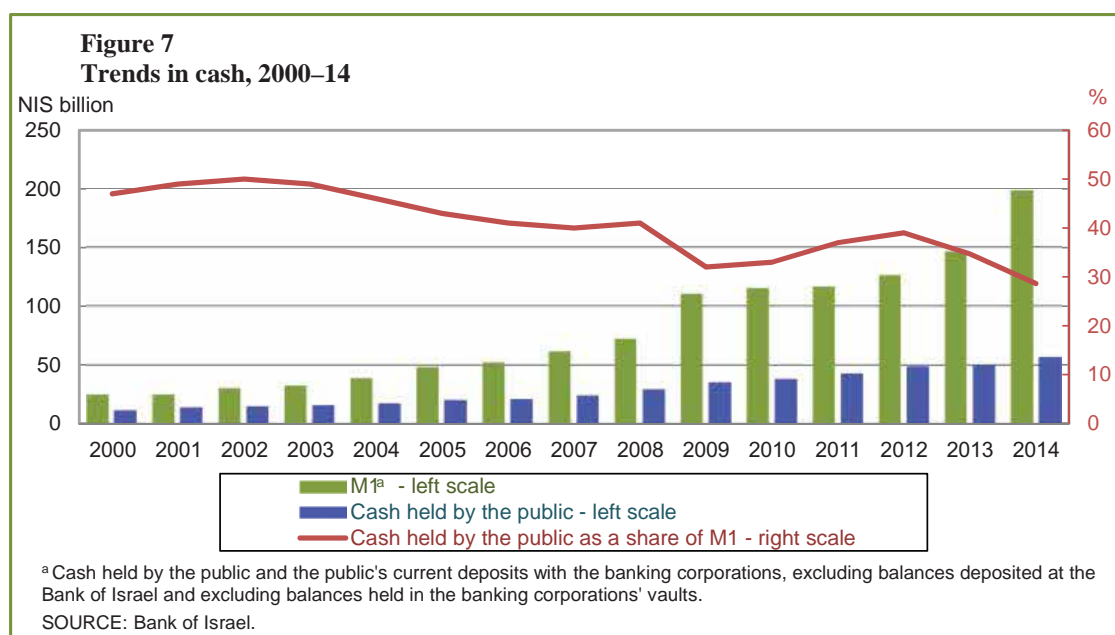
<sup>24</sup> Source: The Bank of Israel, Annual Data on Banking Corporations, Table XI.5–Debits against the Public's Current Accounts. Nominal financial data.

The average cash withdrawal using bank ATMs continued an upward trend, increasing by 5 percent from 2013 to 2014, to NIS 719. (The average annual increase is about 7 percent since 2006).

Demand for cash in Israel typically shows seasonal fluctuations with a high demand during the New Year holiday season, the Hannuka and Pesach holidays, and summer vacation (July and August). The seasonal patterns of demand for all denomination of bills and coins remain uniform throughout the year.

Although the amount of cash held by the public has increased consistently (from NIS 25 billion in 2007 to NIS 57 billion in 2014), cash held by public as a share of the total money supply has been declining, especially as current accounts have increased significantly against the backdrop of the low interest rate environment.





## 1.2 Checks

The use of checks is widespread and generally accepted in Israel, and in terms of quantity, they constitute more than half of the payment instructions settled in the interbank payment systems.<sup>25</sup> Checks have numerous uses, including payments to private beneficiaries (service providers, educational institutions, rent, gifts, etc.); payments to businesses; and payments to public entities (the Israel Tax Authority, educational institutions, and provident and pension funds).

Based on data on all checks (intrabank and interbank<sup>26</sup>), the use of checks declined by about 2.3 percent between 2013 and 2014, to 141.3 million checks, while the total value of settled checks increased by 0.1 percent. Since 2008, the number of checks has gradually declined and by 2013 had fallen by a total of 11.3 percent.

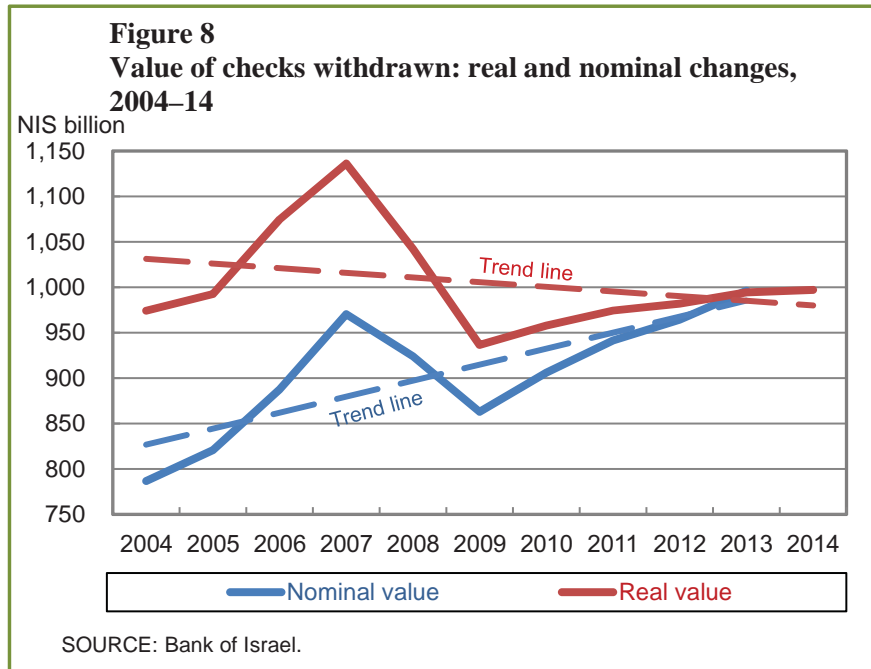
The use of checks declined for two main reasons. First, the public expanded its use of electronic means of payment, and especially payment cards and electronic transfers. Second, some merchants no longer accept checks due to the risks that their acceptance entails.

In contrast, the total value of checks increased by about 7.9 percent in nominal terms, from NIS 924 billion in 2008 to about NIS 997 billion in 2014. The average check value also increased, from NIS 5,799 in 2008 to NIS 7,055 in 2014, reflecting an increase

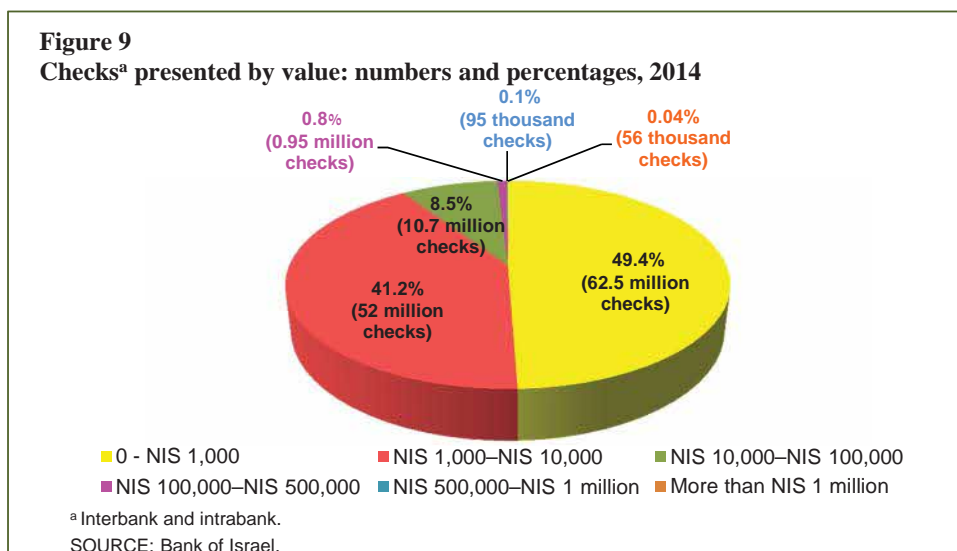
<sup>25</sup> Payment orders settled in the Zahav system (interbank), the Masav system (credits), and in the Paper-based clearing system.

<sup>26</sup> In contrast to the net amounts which reach the Paper-based Clearing House, which include only interbank checks, as described in Section 1.3.1 of Chapter 1, and in Table 2.

of 21.7 percent. It is evident from the high average value of check transactions that checks are widely accepted in the business sector in Israel as a means of payment in large transactions, including, among others, payment of taxes.



In 2014, checks of less than NIS 1,000 constituted 49.4 percent of all (intrabank and interbank) checks presented for payment, and their total amount was NIS 27.1 billion—3 percent of the total value of all checks presented. Checks between NIS 1,000 and NIS 10,000 constituted 41.2 percent of the total number of checks and totaled NIS 181.2 billion (19.8 percent of the total value). Checks of over NIS 1 million totaled NIS 151.6 billion (16.6 percent of the total value).



The number of dishonored checks, excluding intra-bank checks, declined by 5.6 percent in 2014 and their total decreased by 1.5 percent. Dishonored checks constitute 2.2 percent of the total number of presented checks and about 3 percent of the total amount, both in 2013 and in 2014. In 2014, the number of dishonored checks including intra-bank checks decreased by 5.5 percent and the total amount decreased by 1.3 percent.<sup>27</sup>

When a check is deposited in a commercial bank before the end of the business day (at 18:30), the account of the depositor is credited on that same day (day T). The credit is conditional, since according to the Clearing House Rules, the debited bank has the right to return the check on the day following its presentation. From the customer's perspective, the amount credited is provisional, and becomes final three banking business days after day T (the settlement date), unless the customer's bank cancels the provisional credit because the check was dishonored.<sup>28</sup>

In Israel, a check can be endorsed to a third party. On October 1, 2011, an amendment to the Banking (Services to Customers) Law<sup>29</sup> came into effect requiring banks to issue checkbooks with limited negotiability checks, as the default form of checkbook, unless the customer requests otherwise. It was assumed that this would reduce the number of third-party endorsed checks in the system, though not eliminate them completely.

The use of post-dated checks is relatively widespread in Israel, in both the business sector and among households. Post-dated checks are used by bank customers as collateral against the receipt of credit for their business activity. In addition, they are used for the payment of periodic tax payments and to pay suppliers in installments. The use of post-dated checks has led beneficiaries to use check discounting services, which enables them to receive cash immediately in exchange for a post-dated check. This is essentially a method of financing in which the beneficiaries receive the financial value of the check in exchange for a fee. Check discounting in Israel is provided by currency service providers, which are subject to the supervision of the Currency Service Providers Unit of the Ministry of Finance's Capital Market Division. There are 1,702 corporations and private individuals listed in the database of currency service providers, of which 1,287 are permitted to provide check discounting services in Israel.<sup>30</sup>

In 2013, the technology for depositing intrabank checks via mobile phone was approved and came into operation, subject to the following restrictions: A check can be deposited only into the depositor's own account and only if the check is not a postdated check marked "for beneficiary only." Checks totaling up to NIS 30,000 may be deposited in

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<sup>27</sup> Bank of Israel, Annual Information on the Banking Corporations, Table XI-8, The number of returned checks and their value.

<sup>28</sup> Banking (Service to the Customer)(Date of Credits and Debits using Checks) Directives 5752–1992, Section 3(a).

<sup>29</sup> Banking (Service to the Customer) Law, 5741–1981, Section 5(c).

<sup>30</sup> As of May 2015.

any single business day (depending on the bank providing the service), and up to a total of NIS 60,000 in a given month, provided that no single check deposited is greater than NIS 10,000.<sup>31</sup>

## **2. Electronic Means of Payment**

### **2.1 Direct electronic payments**

Direct electronic payments (credits and debits) are automated payments that do not involve manual intervention in the process. Two systems carry out such payments in Israel—Zahav and Masav. The Zahav system executes credits only (the initiator of the instruction may credit but not debit the other party's account) while Masav executes credits and debits.

#### **2.1.1 Direct electronic credits – The Zahav system**

The Zahav system allows individuals and business entities to perform transfers of funds rapidly and reliably, and the use of the system is not contingent upon minimum or maximum amounts. The Zahav system settles orders in real time, without any delay between carrying out the payment order and its approval. In this way it prevents a payment recipient's exposure to multiple risks. Zahav system users know immediately with the funds transfer that the payment that they receive is final and irrevocable, in contrast to other means of payment.

Customers who want to pay via the Zahav system have several options, depending on the bank in which their account is administered. They may personally approach a teller at the bank branch in which they hold a shekel-denominated account; they may send a written request; they may perform a payment via the bank's website (up to NIS 6,000)<sup>32</sup>, or they may contact the bank's telephone call center.

To transfer a payment via the Zahav system, the beneficiary's name in English and Zahav (IBAN) number are needed.<sup>33</sup> Bank customers can obtain their IBAN number in several simple ways, as every commercial bank provides the information to its customers through one or more of the following: branch teller, website, telephone service, automated bank device, or (since 2012) checkbook stub. A customer's IBAN number can also be retrieved from the IBAN simulator on the Bank of Israel website.<sup>34</sup>

<sup>31</sup> In 2014, the service existed at three banks.

<sup>32</sup> According to the provisions of Proper Conduct of Banking Business Directive 357, Section 25(c), sub-section (2), requests in larger amounts are transferred to a bank clerk for approval. The maximum amount of a single payment for corporate customers is NIS 200,000.

<sup>33</sup> The Zahav number—IBAN—is a unique identifier of the customer's account. It includes, among other things, the number of the bank, branch, and account.

<sup>34</sup> The IBAN simulator is accessible at:  
<http://www.boi.org.il/he/ConsumerInformation/ToolsAndCalculators/Pages/Iban.aspx>

As of end 2014, the Zahav system settles an average of 1,700 (bi-lateral and multi-lateral) payment orders per day.

### **2.1.2 Direct electronic payments and credits – the Masav system**

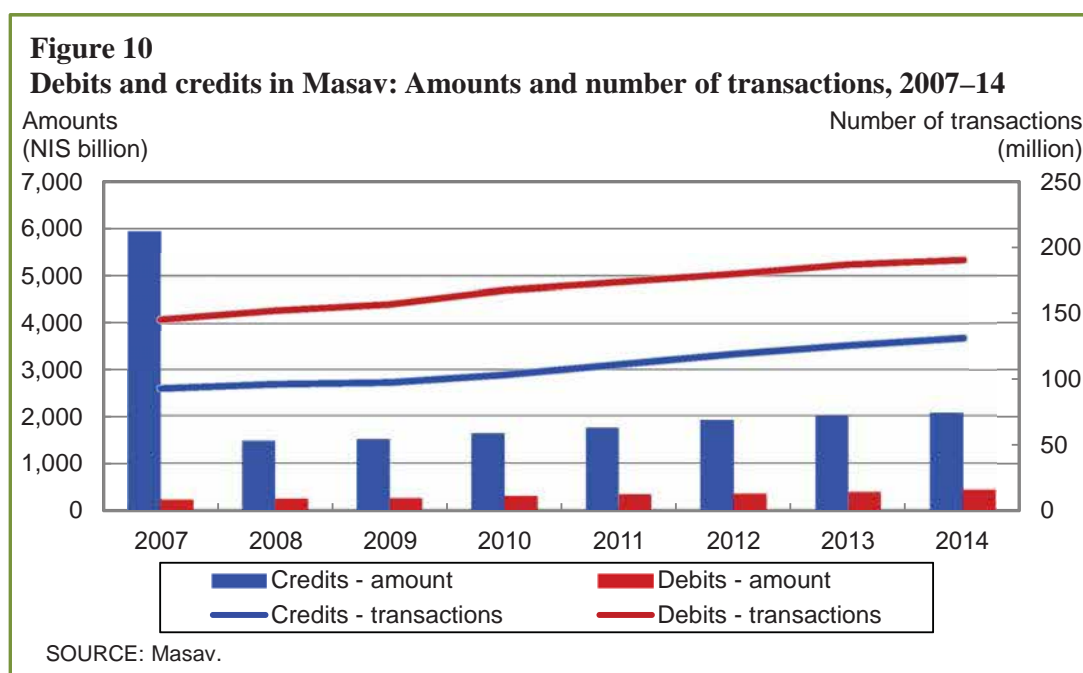
**Direct electronic credits:** Direct credits, as noted, are carried out via the Zahav or the Masav systems and are initiated by the debited party, who instructs the bank to debit his account and credit that of the beneficiary. If there is a sufficient balance in his account, the bank submits the payment order to the clearing house (Zahav or Masav) that settles the payment. If the payment is settled in Zahav, the credit is immediate, final and irrevocable; if it is settled in Masav, the credited party can return the payment within two business days of the execution date. Most direct credits (salaries, pension payments and other payments) are initiated electronically, which significantly reduces the cost of handling each payment order (for the customer, the banks and the clearing house).

In recent years, there has been a steady increase both in the number of direct credits and in their total value. Total direct credits increased by 40 percent between 2008 and 2014, and by 3.5 percent between 2013 and 2014. The number of transactions increased by 36 percent between 2008 and 2014, and by 4 percent between 2013 and 2014. Credit amounts declined significantly between 2007 and 2008, as the Zahav system commenced operations in late 2007.

**Direct electronic debits:** Direct debits are carried out in Israel only through Masav and are initiated by the beneficiary, through the bank at which he holds his account. The bank of the beneficiary collects the funds from the bank that manages the account of the debited party, subject to the legal conditions to which the debited party has agreed. Underlying direct debits is a commitment that the debited party can cancel erroneous or illegal debits within five business days of the date of their execution. The main type of direct debit in Israel is the standing order (payments to service providers, including electricity, water, telephone, etc.). The payment is executed automatically each month, at its updated amount.

In recent years, there has been continuous growth in the number of direct debits and in their value. The value of direct debits increased by 69 percent from 2008 to 2014, and by 12.5 percent from 2013 to 2014. The number of direct debit transactions increased by 25 percent from 2008 to 2014 and by 1.8 percent from 2013 to 2014.





## 2.2 Payment cards

There are five main participants in the payment card market:

**Issuers** – The entity that provides the payment card to the customer, according to the agreement between them.<sup>35</sup> The issuer is typically a bank or credit card company. The issuer administers the credit card holder's account, including a credit facility if one is included in the card.

**Acquirers** – The entity that enables the merchant to honor payment card transactions. The acquirer conveys the debit request approval to the issuer, and if the request is approved, the acquirer guarantees payment to the merchant.

**Payment card holders** – engage in transactions with merchants using a payment card.

**Merchants** – receive funds according to the dates stated in their agreement with the acquirer.

**Payment card scheme** – The scheme defines, for the participants, the rules for performing transactions (the technological and business arrangements, the rules of reconciliation, and the division of liability for damage).

<sup>35</sup> The agreement is based on Section 7 of the Payment Cards Law, 5746–1986.

**In Israel, several types of payment cards are in use:**

The most widely used payment card in Israel is the **deferred debit card**. The card allows a customer to purchase goods and services with the card and to pay once a month, or over the course of several deferred installments.<sup>36</sup> The anonymous merchant is credited according to his settlement agreement, and he finances the credit days that elapse from the date of the customer's payment until the date on which he is credited. This type of card is linked to the customer's credit facility, and allows the card holder to withdraw cash from ATMs, and/or to pay for goods and services, up to the credit limit allocated by the card issuer.

When a customer pays for a transaction in installments with a deferred debit card, there are two aspects to granting credit: (a) non-interest bearing credit, which is credit granted by the business for a period of several days to several months; and (b) interest-bearing credit, which is credit extended by the credit card company to the customer for a period of several months and occasionally for more than a year, through a "credit" program.

This financing element is one of the reasons that a deferred debit card cannot serve as a complete substitute for cash. Another reason is that it is only accessible to consumers who have a bank account with a credit facility.

**Debit cards** – Transactions using a **debit card** are ones using a card in which the cardholder's (buyer's) card is debited, and the seller's account is credited, together, immediately upon execution of the transaction.<sup>37</sup> A debit card combines the convenience of a payment card and a (nearly) immediate transfer of the payment that is similar to payment by cash, (non-postdated) check, or bank transfer. Transactions using debit cards cost the issuer less than transactions using deferred debit cards, regardless of the scope of the transaction.<sup>38</sup> Use of debit cards is very common in many countries around the world, but they are not widespread in Israel.

**Revolving credit card** – The holder of a **revolving credit card** can set the maximum amount to pay each month, while the outstanding balance due on the purchased goods or services is carried over to future months, accruing interest. Cards of this type are issued only by credit card companies (and are mainly cards issued in conjunction with retailers and buyer clubs), although there is no restriction preventing banks from issuing such cards.

A **prepaid card** is a payment card, in Israeli or foreign currency, that the customer loads up to the maximum amount in advance. Each payment is deducted from the card's balance

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<sup>36</sup> Debits on bank cards appear directly in the customer's bank account.

<sup>37</sup> Pursuant to a new directive by the Supervisor of Banks, the merchant is now credited immediately and no later than three days from the date on which the transaction is transmitted. This directive will come into force on April 1, 2016.

<sup>38</sup> Cost to the customer depends on multiple factors, and mainly the interchange fee formula.

until it is depleted. This type of card includes grocery gift cards, phone cards and more. Some of these cards can be loaded repeatedly while others are for one-time use. Some cards are anonymous while others are identifiable.<sup>39</sup> Prepaid cards are issued by credit card companies and by the Postal Bank, and can be used in any business that honors the issuer's payment cards. Prepaid cards can be used to make purchases up to the amount loaded on the card at the time, and the card balance is updated after every transaction. Funds can be added to the card in several ways—directly from a bank account, charging another payment card (deferred, revolving or immediate), or with cash.

Other one-time cards include gift cards and virtual anonymous payment cards issued by credit card companies. The latter make it possible to make purchases on the Internet without exposing the buyer's personal information and information on the purchase. They bear the details of an alternative credit card that may be loaded up to a specific amount, once<sup>40</sup>, while the details of the payment card used to load the virtual card are retained in a secure and encrypted system. Any balance remaining on the virtual card may be unloaded. Prepaid cards may function as substitutes for cash for customers who do not have a bank account.

From the perspective of a merchant in Israel, there is no difference in accepting a deferred debit card, a debit card, or a prepaid card, because in all cases the merchant receives his funds on the date agreed with the acquirer, even though the customer is charged 1–3 business days after the transaction in the case of the latter two cards.<sup>41</sup>

The three credit card companies that operate in Israel—Isracard, Leumi Card, and Cal (Cartisey Ashrai Le'Israel)—issue five local and international brands: Visa, Mastercard, American Express, Diners, and Isracard. The companies issue and settle the cards under licenses from the relevant international organizations. Activity in this sector has expanded markedly in recent years, affected by several factors: the issuance of payment cards by nonbank entities (typically customer clubs); the expansion of the range of services provided by financing and credit companies through instruments that allow the card holder to determine the amount and date of the payment in accordance with their needs and ability; the simplicity and convenience of using these cards when purchasing from merchants; and the growing number of e-commerce sites.

In recent years, there has been an increase in the number of valid cards (active and nonactive) in Israel, and in 2014 the number of payment cards that allow cash withdrawal increased by about 8 percent from about 8 million to about 8.7 million cards. Since 2009, the number of valid cards has increased by about 46 percent. In 2014, the number of immediate debit cards was about 664,000, reflecting a 19 percent increase from 2013, and

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<sup>39</sup> Cards with and without the ability to withdraw funds through an ATM.

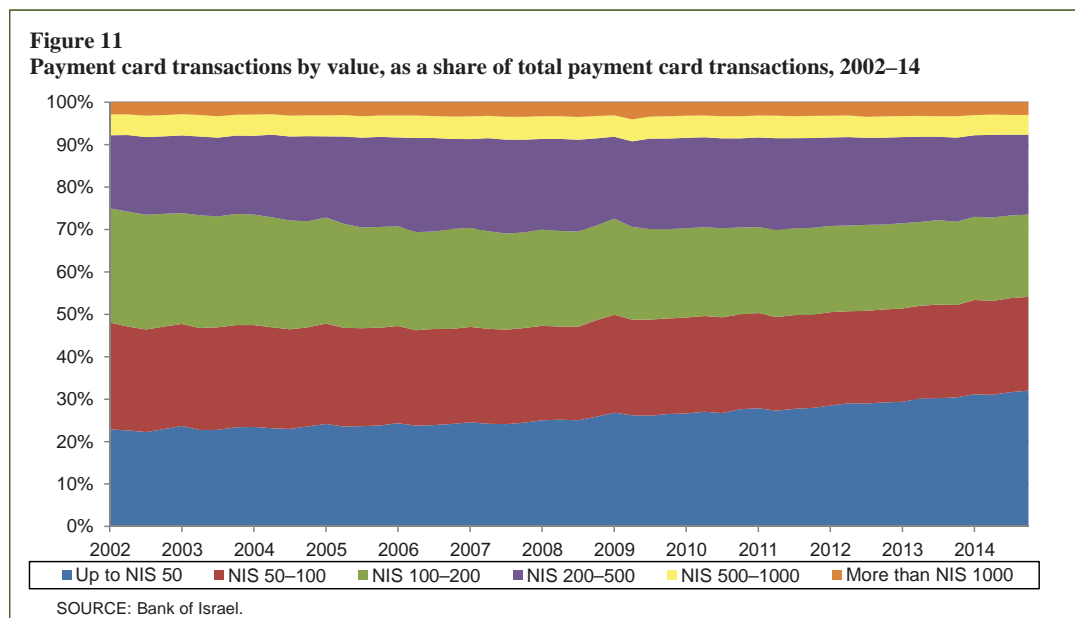
<sup>40</sup> In 2014 the amount was NIS 2,000.

<sup>41</sup> Following the recommendations of the Locker Committee, and pursuant to the directives of the Supervisor of Banks, the authorities in Israel are in advanced stages of devising a solution for this issue.

a 75 percent increase from 2009. The number of transactions (in Israel and abroad) via payment cards issued in Israel increased this year by about 8.1 percent, and from 2008 by about 63.6 percent.

The number of active cards<sup>42</sup> has increased in recent years, and in 2014, the number of active cards increased from 6.7 million to about 7.2 million cards, reflecting an increase of about 7 percent.

The total value of payment card transactions is rising steadily, and there is a tendency at businesses to implement the use of payment cards for micropayments as well—such as in vending machines and photo booths. Between 2013 and 2014, the total value of payment card transactions in Israel increased by 4.8 percent from NIS 216.3 billion to about NIS 226.8 billion. The majority of transactions performed between 2012 and 2014 (about 70 percent) were in amounts less than NIS 200, and this figure likely indicates that this means



of payment serves as an alternative to cash in retail goods and services transactions.

As noted, efforts have begun in Israel to ensure that the market is compatible with the use of smart payment cards, which are cards that comply with the EMV advanced security standard<sup>43</sup>, since such cards offer added benefits. First, a code must be entered into the merchant’s terminal, which reduces the use of stolen or lost cards. The transition to smart

<sup>42</sup> Cards that were used to make at least one transaction in the final quarter of the year.

<sup>43</sup> EMV—Europay, MasterCard, and Visa—a collection of specifications developed by the international credit card companies to provide a secure, uniform format for payment using payment cards in card-present transactions.

payment cards will therefore reduce potential fraud and increase the trust of customers and card companies. Second, the transition will align the local and international markets, expanding the ability to use Israeli cards to make payments abroad.

The transition to smart payment cards requires adjustments to various systems including the Shva system and the payment terminals. According to a plan outlined by the Antitrust Commissioner, in conjunction with the Supervisor of Banks and the Payment Systems Oversight Unit at the Bank of Israel, Shva should complete its preparations in the course of 2015, and the banks and credit card companies will develop a plan to convert credit cards and the associated infrastructures to the advanced technology.

### **3. Advanced electronic means of payment**

In recent years there has been a significant increase in electronic commerce (or e-commerce)—commercial transactions performed electronically—due to expanding Internet access, technological developments in Israel and worldwide, and social media advertising. It is now possible to purchase many products and services without leaving the home, even if the supplier is located in another country or if he operates a virtual store and never meets his customers face to face. E-commerce currently encompasses all types of transactions, including private, retail, and wholesale transactions, as well as domestic and international transactions.

Developments in online payments in Israel also make it possible to pay on the Internet for a broad range of government and public services, such as taxes, traffic tickets, police fines, driving license renewal fees, passports and laissez-passer documents, electricity and water bills, and municipal taxes. Banks in Israel also permit their customers to perform transactions on the Internet and via dedicated smartphone applications. After a customer is issued a confidential PIN, she may monitor her bank account and safely transfer funds and perform payments, although these transactions are in most cases restricted by a maximum amount. Since the Internet makes it possible to perform transactions outside the conventional business hours of bank branches, banks offering such options increase the efficiency of their customer services and save customers time waiting in a branch to be served.

At the same time, there are considerable developments in the field of means of payment and innovative payment solutions that offer secure and available access on new devices and channels (such as mobile payment terminals)<sup>44</sup>, and other options that improve payment efficiency and security. Among recent developments, people have begun to perform a variety of financial transactions on smartphones, including salary payments to temporary or foreign employees, payments to taxis and for parking, confirmation of transactions to

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<sup>44</sup> There are three products in Israel that have transformed smartphones into mobile credit terminals. They include a compact device that connects to the smartphone and to a dedicated app and makes it possible to receive payments from a customer via payment cards. Devices of this type exist in various countries.

companies and private individuals, purchase and sale of securities (via remote access to the bank's securities system), accessing information, transfer of funds to customers of other banks, transfer of funds by interfacing smartphones together, and cash withdrawals from ATMs without the use of an ATM card.

### **3.1 Near Field Communication (NFC)**

Near Field Communication (NFC) technology creates a radio connection between two devices that are held in proximity to each other, and allows payments to be made conveniently and rapidly, circumventing malfunctions of payment terminals. NFC technology can be embedded in any broadcasting device (payment card, mobile phone, SIM card, smartwatch, smartpatch, etc.) although it is currently embedded mainly in smartphones.

To execute a transaction via a smartphone, the user must access a mobile wallet application and hold the smartphone in proximity to a designated NFC-supporting reader. In Israel, a very small percentage of businesses have active readers, and therefore payment cards supporting NFC also support execution of transactions through magnetic strips.

Among the world's leading companies that make use of an NFC component embedded in customers' payment cards are Visa, MasterCard, and American Express. NFC operates in, among other places, Europe, Canada, South Korea, Hong Kong and South Africa.

In various countries around the world, contactless technology is used for payment on public transportation, similar to the use of Rav-Kav cards for public transportation in Israel. This technology, which allows quick and easy payment of small amounts, using a card in which the payer is identifiable (without the need to swipe the card), replaces the use of cash.

### **3.2 Digital wallets**

The accelerated use of e-commerce in recent years has created the need for new options for money transfers and payments that offer greater speed, security, and availability. The e-wallet (or digital wallet) meets this need. It allows the use of a computer to make payments—for instance for online purchases, paying bills, and transferring money between private individuals. It also allows the user to hold funds in a virtual/digital account, to which funds are transferred from a current account, a payment card, or a prepaid card. The e-wallet also allows users to store the information necessary to perform an online payment, such as the details of the means of payment and the details of the e-wallet holder (such as address, ID number, telephone number). The security level of the e-wallet is a function of the specific e-wallet application that is used.

Online payments can also be made via a smartphone. Payment is made through the

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service provider in physical stores, similar to payment using payment cards, but without the customer's details being exposed to the seller. E-wallet applications on smartphones ("mobile wallets") use an NFC device embedded into smartphones in order to transfer information to and from the smartphone.

Development of the digital wallet is being led by banking corporations, credit card companies, entrepreneurs and private companies, and international technology and communications companies.

### 3.3 International foreign currency transfers

The transfer of foreign currency abroad is executed through the banking corporations and the Postal Bank, as well as through currency service providers located throughout the country.<sup>45</sup> These payments are carried out via various payment systems/communication infrastructures—SWIFT, GMT (Global Money Transfers)<sup>46</sup>, Western Union, MoneyGram, etc. In some cases the payment is made directly to a currency service provider abroad who has an agreement with a currency service provider in Israel. These transfers of funds make it possible to deposit cash at a location in Israel and to withdraw it abroad in cash.

Most of the transfers of foreign currency abroad by foreign workers is typically conducted via the Postal Bank or currency service providers. This is primarily because these institutions do not require the sender to open an account for such service, their service is cheaper and quicker than that of the banks, and their hours of operation are more convenient.

### 3.4 Virtual currencies

A **virtual currency** is a digital expression of a monetary value that can be used in e-commerce as a means of exchange or value unit, but does not constitute the legal tender of any country. Virtual currency is not issued or backed by any country, and its use is based on internal agreements among users.

**Digital currency** – includes virtual currency and electronic money that is the legal tender of a country.

In a meeting in February 2014, the Governor of the Bank of Israel, with the participation of representatives from the Capital Market, Insurance and Savings Division, the Israel Tax Authority, the Israel Securities Authority, and the Israel Money Laundering and Terror

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<sup>45</sup> The Prohibition on Money Laundering Law, 5760–2000, defines a currency service provider as an entity that provides the following services: the exchange of currency of one country for that of another; sale or redemption of travelers checks in any currency; receipt of financial assets in one country against the presentation of financial assets in another (financial assets are defined as cash, travelers checks, checks, bills of exchange, promissory notes, negotiable securities, credit or monetary deposits); exchange of cash; and discounting of checks, bills of exchange and promissory notes.

<sup>46</sup> SWIFT – Society for Worldwide Interbank Financial Telecommunication; GMT – Global Money Transfers.

Financing Prohibition Authority, jointly agreed to study various aspects of the use of, and trade in, decentralized virtual currencies, including potential macro-economic effects related to their legal standing, their regulation, money laundering and terror financing risks, taxation, and consumer protection.

It was also decided to direct the public's attention to the major risks inherent in decentralized virtual currencies such as Bitcoin: They are not issued or backed by any central bank; they may be transferred anonymously while evading financial entities that are subject to anti-money laundering and terror financing regimes; their unique features are liable to present fertile ground for fraudulent activities such as Ponzi schemes; the value of virtual currencies are subject to high volatility; they are typically stored on a computer or smartphone, which makes them susceptible to theft; exchange services may be subject to information security failures and regulatory uncertainty; trade in virtual currencies is not supervised by any government authority; and the parties to a transaction remain anonymous and may exploit this fact for criminal motives. In view of this situation, the aforementioned agencies recommended to the public that is considering the use of or investment in virtual currencies to understand the risks and demonstrate a high degree of awareness and caution. These agencies published their recommendation in February 2014, joining other regulators that published similar warnings to the public, including regulators in the United States, Canada, and the EU.<sup>47</sup>

Following the publication of the warning, an interministerial team commenced activity in July 2014, to study topics related to decentralized virtual currencies. The team is headed by the Director of the Bank of Israel Research Department, and its members include representatives of the Bank of Israel, the Ministry of Finance, the Ministry of Justice, the Israel Securities Authority, the Israel Tax Authority, the Israel Money Laundering and Terror Financing Prohibition Authority, the National Economic Council, and the Consumer Protection and Fair Trade Authority.

<sup>47</sup> The warning appears at:

<http://www.boi.org.il/en/NewsAndPublications/PressReleases/Pages/19-02-2014-BitCoin.aspx>

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## Chapter 3: Institutional Aspects

### 1. The Regulatory Environment

A firm statutory grounding is essential for the Bank of Israel's regulatory activity and the operations of the various payment systems in Israel. Following are several laws and agreements that regulate the operations of the payment systems in Israel:

**Section 4 of the Bank of Israel Law, 5770–2010** establishes that one of the functions of the Bank of Israel is “to regulate the economy's payment and settlement systems so as to ensure their efficiency and stability.” This law grants the Bank of Israel the authority to fulfill its functions in the payment and settlement systems, including the operation of payment systems with systemic importance, and the oversight of payment systems.

As part of the reform of the payment and settlement systems in Israel, the Bank took a leading role in the legislation of the **Payment Systems Law, 5768–2008**, the goal of which is to regulate the operations of the payment systems in Israel and to reduce the risks related to them. The law sets out the arrangements necessary for the proper functioning of the payment systems and includes, among other things, definitions of the term “payment system,” the criteria for finality of payments in the system, and the procedure in the case of a bankruptcy by a system participant. In addition, the law provides the Bank of Israel with the authority to define payment systems as controlled systems, to introduce regulations concerning controlled systems, and to oversee them. Thus, it determines under what conditions the payment system will be subject to oversight authority, which obligations apply to the operator of such a system, and what oversight tools are available to the Bank of Israel.

In August 2011, the Knesset approved **Amendment 18 to the Banking (Licensing) Law, 5741–1981**. As part of the amendment, a chapter was added to the law concerning the settlement of transactions carried out with payment cards. Among other things, this chapter prohibits the provision of settlement services without a license granted by the Governor of the Bank of Israel. Companies that receive a settlement license will be subject to oversight of the Bank of Israel.

The securities clearing house and the Maof clearing house are subsidiaries of the Tel Aviv Stock Exchange Ltd. (TASE) and operate in accordance with the **Securities Law, 5728–1968**, and according to the bylaws of the clearing houses. As part of its function as supervisor of the payment and settlement systems, the Bank of Israel signed a **memorandum of understanding with the Israel Securities Authority** in order to arrange the cooperation between the two entities with respect to supervision of the TASE clearing houses.

The Banks' Clearing House is made up of the Paper-based (checks) Clearing House and the Automated Clearing House (Masav), and operates according to the **Clearing House**

**Rules.** These rules are revised from time to time in accordance with the decisions of the Clearing House Committee, which includes representatives of the banking corporations, the Postal Bank and the Bank of Israel.

In recent years, the Bank of Israel has been working diligently to promote the **Electronic Check Clearing Law, 5775–2015** (also known as the “Check Truncation Law”). The Law will allow for checks to be retained by the presenting banks, which will only transfer files of scanned checks to the paying banks. These files will serve as binding legal and business evidence. However, until the law is approved, a scanned check cannot serve as legal proof in place of the original check. On June 29, 2015, the proposed Electronic Clearing Check Law, 5775–2015 was published in *Reshumot* (the Official Gazette) and on July 6, 2015, the Knesset plenum approved the bill in First Reading.

The **Prohibition on Money Laundering Law, 5760–2000** was enacted in Israel in August 2000. About 18 months following that, the sections dealing with the obligations of financial entities came into effect. During this period, the Governor of the Bank of Israel also issued a directive on the prohibition on money laundering, which imposes obligations on the banking corporations with regard to the identification of clients, retention of records and reporting to the Israel Money Laundering and Terrorism Financing Prohibition Authority. At the beginning of 2005, the **Prohibition of the Financing of Terrorism Law, 5765–2005** went into effect. At the same time, changes were introduced into the guidelines to the Israeli banking system in order that they include means for preventing terror financing. Additional measures in this effort were taken in November 2006, including approval by the Knesset of regulations that deal with the prohibition of financing terrorism. Israel continuously examines new ways of fighting money laundering and the financing of terrorism and also reconsiders (or revises) existing measures as circumstances change, to provide solutions that address the growing degree of sophistication of criminals in this area. The steps include changes in legislation and the revision of regulations in order to expand the requirements related to risk management (including special requirements with respect to the use of payment cards for illegal transactions through the Internet).

On February 2, 2014, an amendment to the **Prohibition on Money Laundering (The Banking Corporations’ Requirement regarding Identification, Reporting, and Record-Keeping for the Prevention of Money Laundering and the Financing of Terrorism) Order, 5761–2001** was published in *Reshumot*, after it was approved by the Knesset Constitution, Law and Justice Committee on October 29, 2013. The amendment to the Order included new directives related to the prohibition of money laundering and terrorism financing. To illustrate, requirements were added with respect to the inspection and recording of the names of parties involved in international transfers, the “know your customer” obligation was defined in the law together with additional related directives and requirements, the requirement to retain documents for an extended period was added at the demand of the Supervisor of the Banks, and reference to the list of at-risk countries

published by the head of the Money Laundering and Terrorism Financing Prohibition Authority pursuant to FATF<sup>48</sup> publications was added. The amendment also addresses the definition of an “irregular activity” that requires reporting to the Authority, as stated in Section 1. This definition was amended to the following: “Activity that, according to the information possessed by the banking corporation, is suspected of being related to activity prohibited under the Prohibition of Money Laundering Law or the Prohibition of Terrorism Financing Law.” The Order went into effect on August 2, 2014.

On May 12, 2014, the Knesset Constitution, Law and Justice Committee approved the amendment to the **Prohibition of Money Laundering (Obligations of Identification, Reporting, and Record-Keeping by Currency Service Providers) Order, 5762–2002**. The amendment includes new directives that apply to currency service providers, as they are defined in the Prohibition of Money Laundering Law, 5760–2000. Among other things, a “Know Your Customer” obligation was imposed for regular customers, obligations were imposed related to foreign public persons, an obligation was imposed to authenticate the identifying details of service recipients, various exemptions were defined that allow the provision of currency services without face-to-face identification under specific circumstances, obligations were imposed related to the prohibition of terrorism financing, an obligation was imposed for currency service providers whose annual turnover exceeds NIS 3 million to establish a computerized database, and the minimum reporting requirements to the Prohibition of Money Laundering and Terrorism Financing Authority were revised. The Order went into effect on March 30, 2015.

On July 30, 2014, the Knesset plenum approved the Second and Third Readings of the **proposed Prohibition of Money Laundering Law (Amendment No. 13)(Business Service Providers), 5774–2014**, which concerns the application of an anti-money laundering and terrorism financing regime to providers of business services (attorneys and accountants). The amendment was designed to prevent abuse of business service providers who perform financial activities for their customers where such activities are done for the purpose of money laundering or terrorism financing. The amendment was drafted according to international standards in this field, including an obligation to impose said regime on these sectors. The directives will come into effect when an order enacted by the Minister of Justice comes into effect.

**Amendment to the Prohibition of Money Laundering Law, 5760–2000**, published on August 7, 2014, and **the Prohibition of Money Laundering (Obligations of Identification and Record-Keeping by Business Service Providers to Prevent Money Laundering and Terror Financing) Order, 5775–2014**, published on December 2, 2014, impose obligations related to the prohibition of money laundering and terrorism financing on attorneys and accountants who render certain business services to their customers, as set forth in the law.

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<sup>48</sup> Financial Action Task Force.

In March 2011, the Knesset approved **Amendment 3 to the Oversight of Financial Services (Provision of Pension Advice and Pension Marketing) Law, 5771–2001**. The amendment required the creation and operation of a pension settlement system and also specified the conditions for its operation and the services that it will provide.

In addition to the aforesaid legislative amendments, the Bank of Israel has signed several agreements and memorandums of understanding with entities that are involved in the payment and settlement systems in Israel—the banking corporations, Masav, and the TASE clearing house. These agreements include the **Zahav System Rules** which formalize the rules and arrangements for the operations of the Zahav system and the obligations of all its participants. These rules apply to all participants, and are binding on them based on their signature on the participation agreements. The rules are in effect from the date the system began operations (July 30, 2007), and are subject to ongoing revisions that the Bank of Israel manages and disseminates in revised editions that are published from time to time. The functional, technical, and operational information that appears in the rules and its appendices is confidential, and system participants and parties acting on their behalf may use such information only for the purpose of their activities in the system.

## 2. Financial Intermediaries

The following entities provide services within the payment and settlement systems:

**Banking Corporations** – There are 21 banking corporations operating in Israel. They can be classified into three types<sup>49</sup>: banks, foreign banks, and joint services companies (Shva and Masav). The banking corporations provide a wide variety of banking services and also participate in the various settlement systems. The banks are under the supervision of the Banking Supervision Department at the Bank of Israel.<sup>50</sup>

The **Postal Bank** is a subsidiary of the Israel Postal Company. The Postal Bank offers a range of financial services to business customers, government entities and the general public through a nationwide network of branches. According to the Postal Law, 5746–1986, the Postal Bank is not permitted to manage deposits or to provide credit to customers (since it is not permitted to pay or charge interest). The Postal Bank is government owned and is subject to the supervision of the Ministry of Communications. It participates in the various payment systems, including the Zahav system.

**Banks in the Palestinian Authority** – The members of the Banks' Clearing House include 15 banks that operate within the Palestinian Authority and whose customers use checks written in Israeli currency within the area of the Palestinian Authority. These banks are represented in the Banks' Clearing House by Israeli banking corporations.

<sup>49</sup> The Banking Supervision Department uses an additional category called “financial institutions”, which includes only one institution: “*masach*”—an education savings fund.

<sup>50</sup> Masav and Shva are also subject to oversight by the Payment Systems Oversight Division, under the Payment Systems Law.

**Credit Card Companies** – In Israel, there are three companies that operate credit cards, which issue five domestic and international brands.<sup>51</sup> The companies issue both bank and nonbank payment cards. In addition, they offer customers a variety of credit solutions.

### **3. The Functions of the Bank of Israel**

#### **3.1 The functions of the Bank of Israel as the central bank**

The Bank of Israel Law details the Bank's functions, including:

**Managing monetary policy** – with the aim of maintaining price stability, which supports economic growth. Price stability is defined by means of flexible inflation targets that the government sets as part of its economic policy.

**Holding and managing the country's foreign currency reserves** – The reserves are used primarily to provide the government with foreign currency to fulfill its obligations, to reduce the probability of a crisis in the foreign exchange market in Israel, and to improve Israel's position in the international financial environment.

**Acting as the banker of the government and the banking corporations** – To manage the government's shekel and foreign currency accounts and to provide it with banking services, such as the execution of receipts and payments in respect of the operations of the various government ministries and auxiliary units, the calculation of interest due to interest-bearing activity in its accounts, and the issue of daily bank statements and balance confirmations.

In addition, the Bank of Israel serves as the banker for banking corporations. In this capacity, it manages various types of deposits for the banking corporations, both in shekels and dollars: deposits as a result of liquidity regulations, and deposits of surplus funds held by the banks, which are deposited at their initiative. The banks' use their current accounts at the Bank of Israel for the management of intraday and overnight liquidity. In addition, the Bank of Israel provides loans to the banks in daily auctions, as well as overnight loans and settlement services for shekel-dollar transactions.

**Issuing currency<sup>52</sup> and regulating and managing the cash system in the economy** – in order to ensure a regular supply of currency to the economy, in accordance with supply and demand.

**Supervising and regulating the banking system** – This is in view of the critical functions of the banking system and the recognition that a failure in the banking system

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<sup>51</sup> The companies are Leumicard, Isracard, and Cal—Cartisey Ashrai Le'Israel,(Israel Credit Cards) and the brands are Visa, Mastercard, American Express, Diners and Isracard (the only domestic brand). Some of the brands have more than one operator. For example, the international Visa brand is offered in Israel by all three companies.

<sup>52</sup> Banknotes, coins, commemorative coins and special coins.

is liable to severely disrupt the functioning of the economy. The primary function of the Banking Supervision Department is to protect the public interest by ensuring the stability and resilience of the banking system; ensuring fair relations between the banks and their customers, including the promotion of competition and efficiency in the banking system; ensuring the financial assets deposited by the public with the banks; and ensuring the continuity of the banking services rendered to the public. These functions are interlaced and are essential in establishing the public's trust in the banking system.<sup>53</sup>

### **3.2 The functions of the Bank of Israel in the payment and settlement systems and means of payments**

The Bank of Israel Law specifies that in addition to the functions mentioned above, the central bank has the function of “regulating the payment and settlement systems in the economy, so as to ensure their efficiency and stability”. To this end, the Bank works to ensure the safety, efficiency and reliability of the payment and settlement systems and takes measures to reduce the risks inherent in settlement. This includes:

#### **3.2.1 Operation of critical payment systems**

The Bank of Israel operates the Zahav system and the Paper-based Clearing House and participates in the various payment systems in order to carry out payments. These activities require electronic links to financial institutions in Israel and abroad, which are provided by various communication interfaces and applications, including Shva, Kasefet and SWIFT.

#### **3.2.2 Payment systems oversight**

The recognition of the importance of the payment and settlement systems and the magnitude of the risks to which they are exposed has motivated central banks throughout the world — including the Bank of Israel — to create systems that oversee the operations of such systems.

The Payment Systems Law grants authority to the Bank of Israel to oversee the payment systems. It specifies, among other things, the conditions and criteria for declaring a payment system to be a controlled system or a designated controlled system that is subject to oversight authority; the tools available to the Bank of Israel in order to implement its authority, and the obligations that apply to the operator of the system. According to the Law, the Bank of Israel has the power to demand information from the payment systems and to dictate changes in their methods of operation. In 2008, the Bank of Israel declared the Zahav system and CLS Bank to be designated controlled payment systems that are subject to the oversight of the Bank of Israel, and in July 2013 the Bank of Israel declared the “Credits, Debits, and Transfer of Payments” system operated by Masav, and

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<sup>53</sup> Bank of Israel (2014), *The Banking System in Israel: Annual Review*, p. 87.

the “Payment Card Services” and “Automated Teller Machines” systems operated by Shva to be controlled systems.

The primary function of payment systems oversight is to regulate the operations of the payment and settlement systems that have been declared as either controlled systems or designated controlled systems, in order to ensure their efficiency and stability. This function includes the identification of risks inherent in the operations of the payment systems and the adoption of measures to eliminate or control them. In addition, the Payment Systems Oversight Unit examines payment systems' compliance with the international principles for oversight of financial market infrastructures (PFMI).<sup>54</sup> These principles cover a wide range of issues, including general organizational issues, such as legal infrastructure and corporate governance; management of risks—credit risks, settlement risks, liquidity risks, business risks and operating risks; operation of the system in a failure situation; accessibility of the system; and efficiency and transparency.<sup>55</sup>

### **3.2.3 Implementation of improvements and advancing reforms in the payment systems in Israel**

The Bank of Israel continues to take steps to improve the stability and efficiency of the payment system in Israel. Its main actions include (1) more widespread use of electronic means of payment by the entire population, which includes the introduction of guidelines for encouraging their use; reducing the use of paper-based means of payment and promoting the use of electronic alternatives; and the reinforcement of the supporting legal framework, including the acceptance of electronic files as legal evidence; (2) determining rules for operating the payment systems and enforcing them; (3) initiation of reforms to increase efficiency and to meet international standards.

## **4. Public and Private Entities Involved in Payment and Settlement**

**The Council for Payment and Settlement Systems** was established in 2009 in order to improve the efficiency and stability of the payment systems in Israel. The Director General of the Bank of Israel heads the Council, and its members include representatives of the various entities that operate in the payment systems in Israel, such as the Bank of Israel, the banking corporations and the payment systems themselves. In addition, three Council members are representatives of relevant institutions.

The **Banks' Clearing House** includes the Paper-based (checks) Clearing House and Masav. The clearing house is managed by the Clearing House Committee, which operates according to the Clearing House Rules, an agreement between its members. These rules

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<sup>54</sup> The Principles for Financial Market Infrastructures were published in 2012 and can be found at <http://www.bis.org/publ/cpss101a.pdf>.

<sup>55</sup> In addition to the aspects noted, the document extends the areas of responsibility of the regulatory entities (the central bank, financial market oversight entities and other oversight authorities) when implementing these principles.

regulate its operations and the business and functional ties among the participants, and between the participants and the system operator.

The **Paper-based (checks) Clearing House** is operated by the Bank of Israel, and mainly handles checks, which are currently presented only electronically. In addition, magnetized payment vouchers and manual drafts are also presented.

**Masav Ltd.** is a privately owned company that was established in 1982 and operates as a joint service company, pursuant to a license and operating permits issued by the Bank of Israel, and in accordance with an exemption from obtaining approval from the Antitrust Authority for a noncompetitive arrangement. The company provides electronic settlement services of credits and debits, operates the system that manages transitions of members among provident funds and advanced training funds, and offers services for the transfer of information between government entities and the banks.

The **TASE Clearing House** includes the Securities Clearing House for the settlement of trading in securities, and Maof Clearing House Ltd. for settlement in the derivatives market. The Tel Aviv Stock Exchange Ltd.—a private company that was established in 1953 by banks and brokers—operates computerized trading systems for all traded securities: shares, convertibles, bonds, *makam*, ETNs, short ETNs, and options.

**Shva** (Hebrew acronym for “automated bank services”) is a private company that operates as a joint services company, in accordance with a license and operating permits issued by the Bank of Israel and in accordance with an exemption from obtaining approval as a cartel from the Antitrust Authority. The company operates in several areas: operation and management of the interbank switching network—the network of ATMs (cash withdrawals); operation and management of the nation-wide credit card network—the “Ashrait” system (payment card transactions); settlement interface; and the Bank of Israel tenders network. The company operates two payment systems that have been declared as designated and controlled systems—“Payment card services” and “Automated teller machines” systems.

The **Israel Securities Authority (ISA)** was established by the Securities Law, 5728–1968, and its function is to protect the interests of the investing public. The ISA deals with the following areas, among others: publication of prospectuses of corporations and mutual funds; examination of reports presented by reporting entities; regulation and supervision of activity in the mutual funds industry; and licensing of portfolio managers, investment advisors and investment marketers, including regulation and supervision of their activity. Since the Payment Systems Law came into effect, the ISA has also been responsible for oversight of the TASE clearing houses. The Bank of Israel and the ISA cooperate in all aspects of the oversight of the TASE clearing houses, in accordance with the memorandum of understanding signed between them in 2009.

**The Association of Banks in Israel** was established in 1959 as an umbrella organization

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for all the banking corporations in Israel. The banking industry established the association in order to facilitate effective dialogue involving government authorities and the public and private sectors on system-wide issues, with its main goal being to advance the interests of the banking sector. The Association's operations focus on various areas of regulation and the economy and the representation of the banks in dealing with government institutions. It is also involved in public relations and research related to banking. In addition, the Association represents the banking industry in the Coordinating Bureau of Economic Organizations and corresponding international forums. The Association has eighteen members, which include the commercial banks and foreign banks.

## Chapter 4: The Payment and Settlement Systems

### 1. The Existing Infrastructure

The financial infrastructure in Israel includes: interbank payment and settlement systems; means of payment; and communication systems. Means of payment are reviewed extensively in Chapter 2. This chapter reviews the payment systems and the communication systems.

There are six payment and settlement systems in Israel: (a) the Zahav (RTGS) system, which functions as the final settler for all the payment and settlement systems in Israel; (b) the Paper-based (checks) Clearing House, which handles checks and manual drafts; (c) Masav, an electronic system that transfers interbank shekel transactions that are not final, in real time. These include, among others, direct debits, salary payments, and tax payments; (d) Shva is a company that collects, approves, and processes all the payment card transactions in Israel, and manages the switching networks for bank ATM cash withdrawals; (e) the TASE clearing houses (the Securities Clearing House and the Maof Clearing House), which settle the results of stock exchange trades, and (f) the international currency exchange clearing house (CLS). The shekel was added to settlement in the CLS in 2008, and thus financial entities in Israel are able to securely conduct conversion transactions with foreign financial entities.

The participants in the payment systems are banking corporations, the Postal Bank, the Bank of Israel, financial entities, the government, and the general public. The participants make use of a variety of means of payment, such as cash, electronic payments (direct credits/debits), checks and paper-based vouchers, payment cards, online payments, transfers abroad, and foreign currency–shekel conversions.

The communication systems include SWIFT, Kasefet, and Shva.

## 2. The Payment Systems

### 2.1 The Zahav system

Zahav is an advanced RTGS system that ensures speed and safety to its participants at any moment in time. This type of system operates in most (advanced and developing) economies in the world, and has been operated by the Bank of Israel since July 2007.

#### Principles of the Zahav system

Zahav settles payments in a single currency—the New Shekel—in real time and with finality, and functions as the final settler of all the payment systems in Israel. This is an efficient and reliable system that ensures the rapid, safe execution of payments. Settlement is completed within minutes, and after settlement is concluded, payment cannot be cancelled, and the recipient may use the payment immediately, at no risk. Zahav facilitates the execution of securities against payment (DVP—delivery versus payment) and PVP (payment versus payment) transactions.

The Zahav system allows the Bank of Israel to examine, in real time, financial indicators that attest to the state of liquidity in the banks, and therefore assists in maintaining the stability of the system's participants. Among other things, the system considerably reduces the risks involved in the operations of payment systems—both the credit and liquidity risks and participants' interdependence—and significantly reduces the systemic risk. As a result, the system makes it possible to perform transactions safely even during periods of financial uncertainty.

The Zahav system provides a high level of security, in accordance with Israel's National Information Security Authority standards, through the use of the SWIFT communication interface and IBAN codes (Zahav number).

The Zahav system settles each payment separately, and does not set off the debit transactions of the paying bank from its credit transactions. The Zahav system manages payment instructions according to the time of their arrival (i.e., First In, First Out—FIFO). However, it also enables a participant to determine the priority for its payment instructions, according to their importance and urgency. If the paying bank does not have a sufficient balance in its account at the Bank of Israel, the payment instruction is put in a queue until there is a sufficient balance. The transactions in the queue are sorted according to the priority set by the participant, and according to FIFO within each level of priority.

#### Hours of operation and the transactions in the Zahav system:

The Zahav system's hours of operation were adjusted to the banking business day.<sup>56</sup> On weekdays, the system is open between 7:45 and 18:30, and on Fridays and holiday eves

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<sup>56</sup> As defined in the Banking (Service to the Customer)(Date of Credits and Debits in Checks) Directives, 5752–1992.

between 7:45 and 14:00. The system supports two types of credit transactions only:

**Bilateral transactions:** These are instructions to debit the account of the presenting participant and to credit the account of another participant. The transactions are conducted between the customers of the banks, between the banks participating in settlement and also between settlement participants and the Bank of Israel (such as provision of credit to the banks, deposits of the banks with the Bank of Israel, withdrawal of cash from the Bank of Israel, etc.). The bilateral payment instructions are received continuously during the system's hours of operation in real time. When a customer's instructions are received, the customer's bank branch sends a payment order to the bank's central system, and from there the order is sent directly to the Zahav system at the Bank of Israel. If the paying bank has a sufficient balance in its account with the Bank of Israel, settlement is performed immediately. The system debits the presenting bank's account and credits the account of the receiving bank.

**Multilateral transactions:** These are instructions simultaneously carried out between a number of participants, and which are composed of multiple debits and multiple credits. In these transactions, the net results from other payment systems (Masav, the Paper-based Clearing House and the TASE) and instructions from the Bank of Israel are settled. Instructions of this type are settled during the course of the day at predefined intervals—settlement windows—and they receive preference over bilateral payment instructions. On ordinary business days there are six settlement windows, of which three are for the TASE clearing house<sup>57</sup>, two are for Masav, and one is for the Paper-based clearing house.

### **Intraday management of liquidity in the Zahav system**

The method of settlement in the Zahav system requires the banks to manage the liquidity in their accounts on an intraday basis. A bank's liquidity must be sufficient for immediate settlement of all the payment instructions reaching the system during the hours of its activity. Activity in the Zahav system is conducted through settlement accounts that are defined for each system participant. These accounts comprise a current account—the account in which payments are settled—and intraday credit accounts, while the balance in the settlement account comprises the balances in these two accounts. The intraday credit accounts include interest-free intraday credit that the Bank of Israel makes available to participants, who may use this credit according to their needs for that day's operation, and must repay the credit by that day's closing of the Zahav system's operations. The credit is granted against a participant's deposits at the Bank of Israel (in shekels and in dollars)—including government bonds, against foreign securities (since 2010), and against collateral that is deposited in the Bank of Israel's account at the TASE.

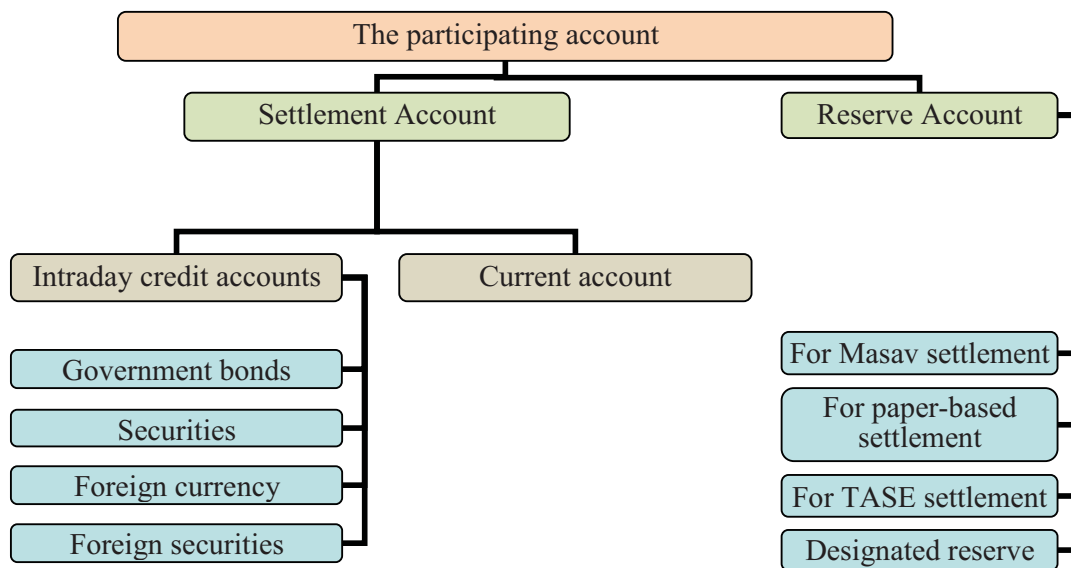
The TASE developed the **ICS (the Intraday Credit System)**, a unique system for the Bank of Israel for managing this collateral. The Bank manages this system, while the

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<sup>57</sup> On Fridays and holiday eves the TASE has two settlement windows.

TASE is responsible for its ongoing operations. When a participant wishes to receive intraday credit from the Bank of Israel, against collateral at the TASE<sup>58</sup>, the participant deposits the collateral in the Bank of Israel’s account in the ICS, and is then entitled to receive intraday credit for its account in the Zahav system. Participants can change the amount of intraday credit held in their accounts during the course of the day, according to the amount of collateral they hold. The amount of intraday credit is determined according to a “haircut” coefficient. The action is performed in the ICS immediately, and the interface involving the banks, the TASE, and the Zahav system allows participants to view information on their credit lines and their collateral in real time. In other words, the system is updated continuously according to the balances of securities that are used as collateral for the intraday credit. These procedures are governed by an agreement between the Bank of Israel, the TASE, and Zahav system participants.

In addition to its settlement account, each Zahav participant also maintains reserve accounts that provide the liquidity required for multi-lateral transactions in the Paper-based Clearing House, Masav, and the TASE Clearing Houses.



<sup>58</sup> Government bonds, according to a list defined by the Bank of Israel and updated from time to time.

## **Participants in the Zahav system**

The participants in the Zahav system include all of the banking corporations in Israel, the Postal Bank, CLS, the clearing houses (Masav, the TASE clearing houses and the Paper-based Clearing House), and the Bank of Israel. The 21 participants that maintain a settlement account in the system and are considered to be settlement participants include the banking corporations, CLS, the Postal Bank and the Bank of Israel. These participants, as well as the clearing houses, are permitted to send payment instructions for settlement within the Zahav system.

There are two types of settlement participants: online participants, which are directly connected to the system and can send and receive payment instructions; and offline participants, which are not directly connected and must make use of an online participant in order to transfer and receive payment instructions. As of the end of 2014, there were 18 online participants and 3 offline participants.

## **2.2 The Banks' Clearing House**

The Banks' Clearing House determines the rules for the Paper-based (Checks) Clearing House, in which paper-based transactions (checks, manual drafts, and vouchers) are cleared, as well as the rules for Masav, in which credits and debits are cleared electronically.

The Banks' Clearing House is managed by the Clearing House Committee. The Committee has 14 members (half of which are representatives of the Bank of Israel and half of which are representatives of the banking system) who are appointed by the Governor of the Bank of Israel or someone authorized by the Governor. The Committee convenes at least once every quarter or more frequently if necessary, to address the issues on the agenda. The Committee publishes an annual report of its activities.

The activity of the Banks' Clearing house is carried out according to an agreement between its members, which is known as the Clearing House Rules. The Clearing House Rules govern its operations and the business and functional relations among the participants, and between the participants and the system operator. These rules are published on the Bank of Israel's website, and are updated regularly on the site in accordance with the decisions made by the Clearing House Committee.<sup>59</sup>

### **2.2.1 Masav**

Masav is an electronic system for the clearing of interbank transactions in shekels that are not based on paper documents, such as authorizations to debit an account and payments of salaries and taxes. These are sent to Masav by the banks, the Postal Bank, Shva, and the credit card companies—the organizations that are authorized to send direct payment instructions.

<sup>59</sup> The Clearing House Rules are available at:  
<http://www.boi.org.il/en/PaymentSystem/ActiveClearingHousesInIsrael/Pages/MislakaMain.aspx>

### **The principles of Masav**

Two types of instructions are carried out in Masav: **direct credits**, such as the payment of salaries, payments to suppliers, payment of taxes, and interbank payments reflect the activity of bank customers; and **direct debits**, such as standing orders to debit an account.

Payment instructions are accepted at Masav throughout the working day, and up to six months in advance.

### **Hours of operation and transactions**

Masav performs two types of instructions:

**Direct credits**, which are payments originating from organizations (including the government) and which involve payment of salaries, payments to suppliers, payment of taxes, etc.; and payments originating from the banks, which reflect the activity of their customers; and

**Direct debits**, which originate from banks and organizations (standing orders to debit an account).

Debit and credit instructions from the organizations that arrive by the cut-off time<sup>60</sup> are settled at the end of the day of transfer according to the value on that day (T). Otherwise they are settled on the next day (T+1). Interbank transfers, i.e., reconciliations between the banks due to instructions sent to Masav, are settled in the Zahav system on the business day following the day of transfer (T+1).

Payment instructions cleared in Masav are not final since the beneficiary can return the credit within 2 business days and the debited party can return the debit within 5 business days. Returned payment instructions receive the value of the day on which they are presented.

The participants submit payment instructions in the form of batch files to Masav during the course of the business day. The Clearing House Committee has decided on the hours during which files can be sent to Masav for processing on the same day. On receipt of the files, Masav carries out a clearing process, which involves the calculation of the mutual liabilities of the participating banks and the creation of a net file that is intended for final settlement in the Zahav system. Before the final net sum is sent to the Zahav system, interim calculations, which Masav performs from time to time during the business day, are sent to the banks. The purpose of this is to allow the banks to prepare the liquidity needed for settlement in the Zahav system ahead of time.

The Zahav system has two settlement windows for Masav: the first, intended for banks settlement is at the beginning of the business day (at 10:00) and the second, for settlement of the organizations, opens toward the end of the day (at 18:00 on Sunday–Thursday and

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<sup>60</sup> The two types of instructions have different cut-off times.

at 13:30 on Fridays and holiday eves).

### **Participants in Masav**

The participants in Masav include all the organizations that are permitted to submit payment instructions directly to the system. As of December 2014, there are 26,109 organizations that participate in Masav, including banking corporations, the Postal Bank, government ministries and public institutions, as well as other settlement organizations such as the credit card companies. All of the participants in Masav are direct participants, i.e., they represent themselves.

### **2.2.2 The Paper-based Clearing House (the Checks Clearing House)**

The Paper-based Clearing House settles transactions that are submitted on paper. The transactions presented by banks at the Paper-based Clearing House are for the most part checks, which are now presented and returned only electronically. In addition, manual drafts (non-magnetic credits and debits) and magnetic payment vouchers, which are also known as vouchers, are presented at the Paper-based Clearing House.

In recent years, a number of changes have been promoted by the Bank of Israel with respect to the Paper-based Clearing House, including legislative efforts involving the Electronic Settlement of Checks Law; the introduction of imaging of checks; steps to reduce the number of manual transactions; and the introduction of a standardized check.

#### **Hours of operation and the clearing process in the Paper-based Clearing House**

The Paper-based Clearing House operates on every banking business day, including Fridays and holiday eves (with the exception of Purim eve, Independence Day eve, and Tisha B'Av eve), which allows drafts to be handled immediately at the end of the Sabbath or holiday. The list of business days is published on the Bank of Israel's website, and is updated every year.

At the close of the business day at 18:30, the banking corporations collect all the manual drafts (most of which are checks) that their customers deposited at the bank branches during that day. Two procedures are then conducted concurrently: First, the clearing house participants conduct two settlement sessions—settlement meetings at which the participants transfer the drafts from the collecting banks to the paying banks. Manual drafts are presented and returned in the first session, while magnetic drafts are presented and returned and vouchers are presented electronically in the second session. Concurrently, the banks create (during the day or at its conclusion) electronic files that contain information on the drafts deposited that day. At the end of the day, each bank sends the files to the other members of the clearing house and also sends a summary file to the clearing house, which indicates the total credit to its account against debits to the accounts of the other banks. At night, the clearing house performs a pre-settlement procedure and creates a multilateral entry of debits and credits of the settlement participants.

This entry is sent for settlement in the Zahav system the next morning (T+1) during the Paper-based Clearing House settlement window, which opens at 9:30. This process enables the banks' customers to benefit from the difference between the value of the day of deposit (value day T) and the value of the day on which the financial settlement between the banks is recorded in the Zahav system, i.e., the following business day (value day T+1). Since there is a difference of one business day between the value day recorded for the customer and the value day recorded for the bank, the Bank of Israel conducts interest reconciliation between the banks at the end of each calendar month.

The banks have the right not to honor electronic or manual drafts presented to them for various reasons (such as insufficient funds, or errors in the details), and they have the right to return a draft on the day following its deposit but not later than 3 business days from the day of deposit. Delays in returning drafts may occur in exceptional circumstances that are defined in the Clearing House Rules.

### **Participants in the Paper-based Clearing House**

As of December 31, 2014, the Paper-based Clearing House has 35 members, which include the banking corporations, the Postal Bank and the Bank of Israel. Some of them operate in the clearing house directly and the rest are represented by other participants. In the settlement of electronic drafts, 8 banks operate as direct participants and 27 are represented (15 of which are located in the Palestinian Authority areas). In the settlement of manual drafts, 12 banks participate directly and 23 are represented (15 of which are located in the Palestinian Authority areas).

The banks operating in the Palestinian Authority are clearing house members, and all of them are represented by three banking corporations in Israel (Bank Hapoalim, Discount Bank, and Mercantile Discount Bank). The Bank of Israel has two roles in the Paper-based Clearing House—member and operator.

### **2.3 The TASE Clearing Houses**

The TASE has two clearing houses. The **securities clearing house** settles all the transactions in securities whether or not they were carried out on the stock exchange, provides services related to mutual funds and custodial services of securities, and carries out payments of dividends, interest, etc. The **Maof clearing house** settles futures and options traded on the TASE. The results of the net financial settlement of these clearing houses are settled in the Zahav system.

#### **The principles of the TASE Clearing Houses**

The TASE Clearing Houses (the TASE clearing house and the Maof clearing house) settle all the transactions performed on the TASE and the MTS (a trading arena for primary market makers). In other words, they transfer the securities from the sellers to the buyers, and transfer the payment from the buyers to the sellers. To reduce the risks to which



buyers and sellers are subject, the clearing house functions as a central counterparty (CCP) by assuming the risk that one of the parties may default on his obligations in the transaction. All the securities are settled in the clearing house on day T+1, and the funds and securities are transferred between the buyers and sellers at that time (Delivery versus payment – DVP), which is the conventional procedure used by advanced clearing houses worldwide. The TASE Clearing Houses also provide custodial services for securities: that is, they record securities in the names of TASE members through registration companies.

### **Hours of operations of the TASE Clearing Houses and settlement in the Zahav system**

Trading on the TASE takes place on Sunday between 9:45 and 16:25, and Monday to Thursday, between 9:45 and 17:25. The TASE Clearing Houses submit two types of payment instructions to the Zahav system:

**Bilateral instructions** for transactions outside the stock exchange, which can be settled in the Zahav system throughout the business day, starting from the opening of the business day at 7:45 until the end of the clearing houses' activity in the Zahav system at 19:30; and

**Multilateral instructions**, which reflect the net calculation of the banks participating in settlement. Each TASE clearing house separately calculates the net sum of each bank in the various trading and payment activities, and sends the results to the Zahav system, where the banks' accounts with the Bank of Israel are credited and debited. These instructions are settled in three settlement windows: at 8:50, 15:45 and 17:45. On Fridays and holiday eves, there are only two settlement windows, at 8:50 and 12:30.

### **The participants in the TASE Clearing Houses**

The members of the TASE consist of both banks and nonbanking entities, and any investor can trade on the stock exchange through them. Trading is conducted between TASE members, who submit buy and sell orders on behalf of their customers. As of the end of 2014, the TASE had 26 members, which consisted of 14 banks, the Bank of Israel, and 11 nonbank members.

Most of the members of the TASE are also members of the securities clearing house. The securities clearing house has 19 members, consisting of 11 banks, the Bank of Israel and 7 nonbank members. The members of the Maof clearing house consist of 9 banks.

## **2.4 Credit card companies**

The credit card companies in Israel issue payment cards—debit and credit cards—which are used by cardholders as a means of payment in exchange for goods or services. In addition, the companies provide merchant acquiring services for payment cards transactions. There are three major credit card companies in Israel: Isracard, Leumi Card and Cal (Cartisey Ashrai Le'Israel) Israel Credit Cards. The companies also issue international credit cards

and provide merchant acquiring services for them on the basis of licenses granted by the relevant international organizations.

Activity in this area has grown significantly in recent years, which can be attributed to a number of factors: the issue of nonbank payment cards (generally involving customer clubs); an expanded range of credit and financing services provided by the companies by means of instruments that allow cardholders to determine the amounts to be debited and the dates of the debiting according to their needs and ability; and the ease and convenience of using payment cards at businesses and the option of making purchases through the Internet and on the telephone.

## **2.5 International clearing house for currency exchange (CLS)**

The operation of the Zahav system opened up new possibilities for Israel internationally. The most important of these is the inclusion of the shekel in the CLS system—the international clearing house for currency exchange. CLS began its commercial operations in September 2002, and the shekel was included in May 2008. The immediate implication of this step was that the CLS Bank was defined as a participant in the Zahav system. An account for the CLS Bank was opened in the system, and is used to transfer CLS payments.

### **Principles of CLS**

CLS's operations are similar to those of an RTGS system, but instead of operating in one currency, the CLS system simultaneously carries out settlement and exchange of a number of currencies. The daily activity in the CLS is carried out by Settlement Members which provide settlement services within CLS to its customers. A bank that wishes to become a settlement member is required to hold shares in CLS and to meet various operational and financial requirements. In order to include the shekel as a qualified currency, CLS required the appointment of settlement members, as well as liquidity providers whose function is to assist in the provision of liquidity in shekels if needed.<sup>61</sup>

The CLS mechanism for the provision of liquidity through liquidity providers is set up in such way that if CLS does not have sufficient liquidity for settling transactions in a particular currency, it can require a liquidity provider to cover the shortfall in that currency, in exchange for the transfer of other currencies to its account. Essentially, this is a commitment by the liquidity provider to carry out an overnight swap. It should be noted that since the shekel was included in CLS settlement, the arrangement for the provision of liquidity has not been employed.

It should be emphasized that conversion activity in Israel between the shekel and other currencies settled by the CLS is carried out primarily at CLS, which reduces the settlement risks that exist in exchange transactions.

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<sup>61</sup> In Israel there are two settlement members and three liquidity providers.

### **Hours of operation and settlement entries in the Zahav system**

According to the arrangement with CLS, its operations in the Zahav system proceed in the following manner: The banks that have transactions with CLS are required to transmit the amount in three time slots during the day (9:00, 10:00, and 11:00), and are required to transmit the full amount no later than the third time slot. From 11:00 onward, CLS returns the amounts to the banks. At the conclusion of CLS's day of operations vis-a-vis the banks (13:00 at the latest), CLS's account in the Zahav system is zeroed out.

### **Participants in CLS activities in the Zahav system**

Settlement participants and liquidity providers.

## **2.6 Shva (Automated Banking Services)**

Shva is a private company that was established in 1979 and is owned by Israel's four major banks. The firm operates as a joint services company, as defined in Section 23 of the Banking (Licensing) Law, 5741–1981, pursuant to its operating license and permits granted to it by the Bank of Israel, and in accordance with an exemption from the terms of approval of a noncompetitive arrangement from the Israel Antitrust Authority.<sup>62</sup>

The company is subject to oversight by the Banking Supervision Department at the Bank of Israel as it is a joint services company. The company is also overseen by the Payment Systems Oversight Unit as it is a controlled payment system operator under the Payment Systems Law, 5768–2008.

### **Shva operates in four main areas:**

#### **1. Operation and management of the interbank switching network — the network of ATMs (cash withdrawals)**

The ATM network is a joint nationwide network of all the banks, which enables a customer from one bank to withdraw cash from another bank's ATM in a secured manner, in a procedure that is identical to a regular withdrawal from his own bank's ATM.<sup>63</sup> Shva provides a number of services within the framework of operating the national ATM network: card verifications, directing requests for approval, balance queries, and stand-in services.

Shva operates the ATM switch and carries out the interbank switching for all ATM withdrawals by customers who withdraw cash from a bank other than the one that is-

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<sup>62</sup> See Antitrust Authority Director General's exemption dated September 20<sup>th</sup>, 2012: <http://www.antitrust.gov.il/item/32053/search/691373a4408b4ba8b7221c60444042f5/highlight/%d7%a9%d7%91%d7%90.aspx>

<sup>63</sup> In the past, the company had dealt with operating Automated Teller Machines that it owns. In accordance with a directive from the Head of the Israel Antitrust Authority, the company sold the activity to a private company. The process was completed in 2014.

sued the payment card used for the withdrawal.<sup>64</sup> Communications in the ATM switch are based on a protocol that Shva developed and which is administered by Shva for the segment between the settling bank and the switch.

## 2. Operation and management of the national credit card network—the “Ashrait” system (payment card transactions)

Shva manages the national communications network for payment cards (“Ashra’it”), to which merchants’ point of sale terminals are directly connected. The network supports all types of transactions involving payment cards, and most payment cards from around the world—Visa, Mastercard, American Express, JCB, Discover (Diners) and private label cards. Within the framework of “Ashra’it”, Shva provides several services:

**Transaction approval** — Shva serves as the switch that directs approval requests for domestic transactions. The company receives requests from POS terminals, identifies the merchant acquirer and issuer, transfers the request to the issuer, and delivers a response to the merchant. In most cases, transactions are approved in real time. Requests for approval of transactions by tourists are transferred to the appropriate merchant acquirer, who transfers the request to the issuing bank through the relevant international organization’s switch (Visa and MasterCard), and the reply is transmitted through Shva to the merchant.

**Collecting transactions** — Shva collects all the transactions from a merchant by transmission of batch files, sorts and separates the transmissions by merchant acquirer, conducts tests and processing for the acquirer<sup>65</sup> and transfers the transactions to Masav for clearing.

**Stand-in service** — Shva responds on behalf of the merchant acquirer to requests for approval, in accordance with the specifications of the confirmation tests and permissions that each merchant acquirer defined.

**Additional services** — Shva manages the parameters and vectors integrated into the POS terminals, which allow merchant acquirers and issuers to manage their risks; the customer club interface, which handles the discounts deducted at payment in accordance with data received from the credit card issuers; the clearing transfers—the merchant acquirer transfers at the point of sale; and the file of blocked cards and accounts.

Shva developed “Ashra’it 96”, a unique protocol for the payment system in Israel, according to the requirements of the credit card companies, with the aim of defining, consolidating, and managing operations involving the payment cards of various companies. The merchants’ POS terminals contain software that the manufacturers devel-

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<sup>64</sup> Neither on-us transactions (withdrawals from a machine belonging to the bank that issued the card) nor tourist transactions pass through Shva’s ATM switch.

<sup>65</sup> For example: completeness of data, errors, duplicate transmissions.

oped according to the specifications defined by Shva, and the terminals are authorized for use after Shva inspects and verifies that the software conforms to its specifications. In 2014, Shva took initial steps toward adapting the system to EMV compliance and commenced development of “Ashra’it EMV”. Completion of this process will enable all credit cards and the related infrastructure in Israel to perform more secure transactions.

### **3. Communications for monetary tenders**

Shva provides the communications services between the Bank of Israel and banking corporations that participate in monetary auctions.

#### **Shva participants**

In accordance with the Banking (Licensing) Law, 5741–1981 and the operating license granted by the Supervisor of Banks to Shva, Shva may provide ATM switching services to banking entities only, and only for cash withdrawal services. Nonbank entities that wish to participate in the system must receive authorization from the Bank of Israel to connect to the system. Merchant acquirers and issuers are allowed to connect to the “Ashra’it” system switch and the clearing interface. The entities that are in fact connected as acquirers and issuers are the three credit card companies (Cal, Leumi Card, and Isracard).

### **3. Means of Communication**

Data between payment systems are transmitted through the following communication interfaces and designated applications:

#### **3.1 SWIFT**

The Bank of Israel began using SWIFT in 1983 in order to (a) provide banking services in foreign currency to the government (executing payment instructions and receiving payments); (b) provide banking services in foreign currency to the banks (transfers to and from abroad against their foreign currency accounts at the Bank of Israel); and (c) send instructions and confirmations to outside parties following the execution of a transaction. Starting in 2007, the year in which the Zahav system began operating, SWIFT has served as a platform for the transfer of data on payment instructions and other types of messages between the Zahav system and its participants (banking corporations, the Postal Bank, CLS and the TASE) and between the banks and the TASE Clearing Houses.

#### **3.2 “Kasefet” (Secure Vault)**

The virtual vault system enables organizations to transmit secure and encrypted information (data files) to each other via the Internet. The system provides multiple layers of data encryption and security. The information that is sent from the source to the destination organization is stored in computerized safes with sophisticated access permissions and

controls. Each safe can be accessed only by a defined group of users who share the safe. On entering the system, a user sees only the safes that he is authorized to access.

The Bank of Israel began using “Kasefet” in 2003 to electronically transfer payment instructions from the Foreign Ministry to the Foreign Currency Department at the Bank of Israel. Starting in late 2004, “Kasefet” has been used to transfer most of the information between banking corporations and the Bank of Israel (including statistical data, confidential documents, account statements for the banks, etc.). With the establishment of the Zahav system, use of “Kasefet” was expanded in order to transfer payment instructions to it from Masav, from the paper-based clearing house and from government ministries.

### **3.3 Shva**

Shva manages the communications network between payment card companies and merchants’ POS terminals. The network supports most payment cards from around the world and all types of transactions using payment cards.

The network is based on a unique protocol for the payment system in Israel (Ashra’it), which Shva developed according to the requirements of the credit card companies, in order to define, consolidate, and manage the work involving the variety of cards issued by various companies. The merchants’ POS terminals contain software that was developed according to the specification documents of the Ashrait protocol.

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Table 1  
**Basic Information on the Israeli Economy**  
 (Current prices, at year end)

	2008	2009	2010	2011	2012	2013	2014	Annual Change (percent)
Average population (thousands) <sup>1</sup>	7,309	7,463	7,625	7,728	7,909	8,059	8,216	1.94
GPD (NIS billion)	726	768	814	870	928	1,053	1,088	3.35
Per capita GDP (NIS thousand)	99.3	102.9	106.8	112.6	117.3	130.7	132.5	1.39
Annual rate of change in CPI (percent) <sup>2</sup>	3.8	3.91	2.66	2.17	1.63	1.82	-0.20	-110.77
Average monthly inflation rate (percent)	0.31	0.32	0.22	0.18	0.14	0.15	-0.02	-110.77
NIS/dollar exchange rate	3.802	3.775	3.549	3.821	3.733	3.471	3.889	12.04
NIS/dollar exchange rate (annual average)	3.586	3.923	3.732	3.579	3.858	3.610	3.578	-0.88

<sup>1</sup> Calculated as the average between December of the current year and the previous December.

<sup>2</sup> CPI of December of the current year against CPI of the previous December.

SOURCE: Central Bureau of Statistics and Bank of Israel.

Table 2  
**Means of Payment Used by Nonbank Entities**  
 (NIS million, average for December)

	2008	2009	2010	2011	2012	2013	2014	Annual Change (percent)
Value of the public's current account deposits in banks	41,916	73,621	75,889	73,505	77,824	95,158	141,139	48.32
Money supply (M1) <sup>1</sup>	71,895	109,481	114,467	116,518	126,619	145,838	197,761	35.60

<sup>1</sup> Cash held by the public and current account deposits.

SOURCE: Bank of Israel.



Table 3  
**Means of Payment Used by the Banks**  
 (NIS million, daily average for December)

	2008	2009	2010	2011	2012	2013	2014	Annual Change (percent)
Banks' deposits in the Bank of Israel <sup>1</sup>	27,172	99,939	92,950	119,656	122,216	117,735	138,798	17.89
<i>Of which:</i>								
Reserve requirement <sup>2</sup>	18,063	21,468	21,702	25,487	26,240	29,073	32,463	11.66
Free reserves	9,109	78,471	71,248	94,169	95,976	88,662	106,335	19.93
Credit provided by the Bank of Israel:								
Intra-day credit <sup>3</sup>	29,986	93,049	86,385	105,791	106,477	98,218	115,914	18.02
Inter-day credit <sup>4</sup>	0	16	0	0	0	0	0	
Long-term credit <sup>5</sup>	0	0	0	0	0	0	0	

<sup>1</sup> Current account deposits and short-term deposits, in domestic and foreign currency.

<sup>2</sup> The reserve requirement is calculated according to the average of the last liquidity month of the year (starting on the last Thursday of November and ending on the last Wednesday of December).

<sup>3</sup> Start of day balances. The collateral system is dynamic and enables immediate matching of the amount of collateral to the banks' needs.

<sup>4</sup> Credit provided by the Bank of Israel for one business day.

<sup>5</sup> Credit provided by the Bank of Israel for more than one business day.

SOURCE: Bank of Israel.

BANK OF ISRAEL

Table 4  
**Banknotes and Coins**  
(NIS million, at year end)

	2008	2009	2010	2011	2012	2013	2014	Annual Change (percent)
Banknotes and coins in circulation <sup>1</sup>	34,351	41,479	44,828	48,976	54,767	57,530	63,188	9.83
Banknotes in circulation	33,073	40,114	43,367	47,419	53,114	55,735	61,274	9.94
<i>Of which:</i>								
NIS 200 banknote	16,132	21,485	25,773	30,356	35,291	37,798	42,663	12.87
NIS 100 banknote	13,998	15,425	14,486	14,090	14,571	14,652	15,174	3.56
NIS 50 banknote	2,298	2,535	2,397	2,288	2,556	2,567	2,723	6.08
NIS 20 banknote	612	637	709	683	693	716	712	-0.56
Other <sup>2</sup>	33	32	2	2	2	2	2	0.00
Coins in circulation	1,278	1,365	1,461	1,557	1,653	1,795	1,914	6.63
<i>Of which:</i>								
NIS 10 coin	452	486	524	566	604	669	717	7.25
NIS 5 coin	265	280	300	319	336	365	389	6.65
NIS 2 coin	45	70	81	88	100	114	122	7.66
NIS 10 coin	369	376	392	411	432	455	481	5.93
NIS 1/2 coin	59	61	65	71	70	74	79	7.09
10 agorot coin	88	92	99	102	112	120	125	4.46
Cash held by the banks <sup>3</sup>	4,372	5,619	6,231	5,963	6,052	6,943	6,370	-8.25
Cash held by the public	29,979	35,860	38,597	43,013	48,715	50,587	56,818	12.32

<sup>1</sup> The value of the banknotes and coins in circulation includes the cash held by the public and in the banks' vaults, excluding commemorative coins and collectors' coins.

<sup>2</sup> Old banknotes which can be exchanged at the Bank of Israel.

<sup>3</sup> Banknotes and coins in the vaults of the commercial banks. Does not include money held by the public.

SOURCE: Bank of Israel.

Table 5  
**Institutions Offering Payment Services to nonbank Entities**

	(at year end)						
	2008	2009	2010	2011	2012	2013	2014
<b>Bank of Israel<sup>1</sup></b>							
Number of branches or offices	3	3	3	3	3	3	3
Number of accounts, (banks and non-banks)	427	431	449	616	633	597	605
Number of accounts, banks	60	60	60	61	56	53	53
Number of accounts, non-banks	367	371	389	555	577	544	552
Value of the accounts, all (NIS million)	45,315	117,738	112,488	140,855	137,442	145,122	153,119
<b>Banking corporations</b>							
Number of institutions	24	23	23	24	22	21	21
Number of branches and offices	1,105	1,137	1,177	1,215	1,236	1,203	1,215
<b>Banking corporations in Israel, by categories:</b>							
<b>Regular banking corporations</b>							
Number of institutions	15	15	15	15	15	15	15
Number of branches or offices	1,071	1,112	1,150	1,189	1,215	1,194	1,206
<b>Mortgages banks</b>							
Number of institutions	3	2	2	2	1	0	0
Number of branches or offices	25	15	17	16	12	0	0
<b>Joint services companies<sup>2</sup></b>							
Number of institutions	2	2	2	2	2	2	2
Number of branches or offices	2	2	2	2	2	2	2
<b>Branches of foreign banks<sup>3</sup></b>							
Number of institutions	4	4	4	5	4	4	4
Number of branches or offices	7	8	8	8	7	7	7
<b>Other institutions<sup>4</sup></b>							
Number of institutions	4	4	4	4	4	4	4
<i>Of which:</i>							
<b>Postal Bank</b>							
Number of institutions	1	1	1	1	1	1	1
Number of branches or offices	717	723	737	729	751	756	735
<b>Credit card companies<sup>5</sup></b>							
Number of institutions	3	3	3	3	3	3	3

<sup>1</sup> Accounts in which payments can be executed in local currency.

<sup>2</sup> Masav and Shva.

<sup>3</sup> Foreign banks that are legally recognized as banking corporations in Israel.

<sup>4</sup> Credit card companies and the Postal Bank.

<sup>5</sup> Isracard, Leumi Card, and Cal.

SOURCE: Bank of Israel.

Table 6  
**Number of Payment Cards and Terminals**  
 (At year end)

	2008	2009	2010	2011	2012	2013	2014	Annual Change (percent)
<b>Cards issued in Israel<sup>1,2</sup></b> (thousands)								
Cards with cash withdrawal function	na	5,949	6,452	6,986	7,507	8,015	8,654	7.97
Debit cards <sup>3</sup>	na	379	386	437	490	558	664	19.04
Deferred-debit cards <sup>4</sup>	na	4,021	4,260	4,589	4,886	5,211	5,452	4.63
Credit cards	na	4,607	4,857	5,145	5,393	5,654	5,987	5.89
Electronic Money Cards <sup>5</sup>	na	557	624	460	399	435	546	25.50
<i>Of which</i> : cards that were loaded at least once	na	380	398	302	298	346	381	10.04
Total number of active cards <sup>6</sup>	5,014	5,354	5,674	5,998	6,350	6,706	7,177	7.03
<b>Terminals located in Israel</b>								
ATMs <sup>7</sup>	4,637	5,504	5,944	6,269	6,671	7,147	7,242	1.33
<i>Of which</i> : ATMs with cash withdrawal	2,453	3,237	3,662	4,029	4,431	4,905	5,002	1.98
Selling points that honor payment cards <sup>8</sup>	99,793	105,112	108,576	111,461	117,223	123,928	133,985	8.12

<sup>1</sup> Each card can be used for several functions (e.g., card that is used both for deferred debit and cash withdrawal).

<sup>2</sup> Valid cards at the end of the year (active and inactive).

<sup>3</sup> Cards allowing an immediate debit of the customer's account for transactions executed in Israel.

<sup>4</sup> Cards allowing a debit of the customer's account at the end of the period, that do not permit the division into installments against interest.

<sup>5</sup> Prepaid cards, both reloadable and non-reloadable.

<sup>6</sup> Cards that had at least one transaction during the last quarter of the year.

<sup>7</sup> Including bank ATMs that receive settlement services from banking corporations. Until December 2013, including ATMs belonging to Shva (Automatic Bank Services).

<sup>8</sup> Electronic terminals in which payments can be made by means of payment cards.

SOURCE: The credit-card companies, Shva, the Banking Supervision Department, and Bank of Israel calculations.

Table 7  
**Indicators of the Use of Payment Systems by Nonbank Entities: Number of Transactions**  
 (Thousands, cumulative annual)

	2008	2009	2010	2011	2012	2013	2014	Annual Change (percent)
<b>Volume by the means of payment</b>	1,062,486	1,105,296	1,184,091	1,256,085	1,348,389	1,447,397	1,532,666	5.89
<b>Direct credits<sup>1</sup></b>	<b>96,638</b>	<b>98,176</b>	<b>103,733</b>	<b>111,334</b>	<b>119,449</b>	<b>126,011</b>	<b>131,394</b>	<b>4.27</b>
<i>Of which:</i>								
Paper-based credits <sup>2</sup>	252	270	241	37	57	20	16	-22.76
Electronic credits <sup>3</sup>	96,386	97,906	103,492	111,297	119,392	125,990	131,378	4.28
<b>Direct debits<sup>4</sup></b>	<b>153,170</b>	<b>157,979</b>	<b>168,376</b>	<b>174,305</b>	<b>180,373</b>	<b>187,373</b>	<b>190,806</b>	<b>1.83</b>
<i>Of which:</i>								
Paper-based debits	278	229	190	180	193	169	161	-5.01
Electronic debits	152,892	157,749	168,186	174,125	180,180	187,204	190,645	1.84
<b>Payments with cards issued in Israel<sup>5</sup></b>	<b>653,331</b>	<b>697,393</b>	<b>761,117</b>	<b>821,299</b>	<b>901,028</b>	<b>989,438</b>	<b>1,069,144</b>	<b>8.06</b>
<b>Checks<sup>6</sup></b>	<b>159,347</b>	<b>151,748</b>	<b>150,865</b>	<b>149,147</b>	<b>147,539</b>	<b>144,575</b>	<b>141,321</b>	<b>-2.25</b>
<b>Volume by type of terminal<sup>7</sup></b>	<b>826,668</b>	<b>870,115</b>	<b>896,861</b>	<b>950,295</b>	<b>1,030,916</b>	<b>1,113,553</b>	<b>1,187,145</b>	<b>6.61</b>
<i>Of which:</i>								
Withdrawals from ATMs <sup>8</sup>	128,494	125,573	124,863	123,248	124,961	125,582	113,782	-9.40
Transfer of payments at points of sale <sup>9</sup>	698,174	744,542	771,998	827,047	905,954	987,970	1,073,363	8.64

<sup>1</sup> Interbank credits settled in Masav, Zahav and the paper-based clearing house.

<sup>2</sup> Manual credits at the paper-based clearing house. Estimation based on one day in each month.

<sup>3</sup> Interbank credits settled in Masav and Zahav.

<sup>4</sup> Manual debits in the paper-based clearing house (estimation based on one day in each month) and debits in Masav.

<sup>5</sup> Payments executed in Israel or abroad.

<sup>6</sup> Including interbank and intrabank transactions.

<sup>7</sup> Including transfers by manual terminals.

<sup>8</sup> Until December 2013, including ATMs belonging to Shva (Automatic Bank Services).

<sup>9</sup> Transfers executed at electronic points of sale by means of payment cards, including debit and credit transactions.

SOURCE: Bank of Israel and Shva.

Table 8  
**Indicators of the Use of Payment Systems by Nonbank Entities: Value of Transactions**  
(NIS million, cumulative annual)

	2008	2009	2010	2011	2012	2013	2014	Annual Change (percent)
<b>Value by the means of payment</b>	4,108,601	3,955,018	4,422,619	4,852,458	5,084,657	5,244,143	5,528,591	5.42
<b>Direct credits<sup>1</sup></b>	2,741,691	2,627,043	2,976,495	3,341,114	3,515,500	3,596,324	3,816,210	6.11
<i>Of which:</i>								
Paper-based credits <sup>2</sup>	4,999	9,027	11,693	1,204	521	789	517	-34.44
Electronic credits <sup>3</sup>	2,736,692	2,612,240	2,904,249	3,339,910	3,514,979	3,595,535	3,815,693	6.12
<b>Direct debits<sup>4</sup></b>	282,153	300,322	355,681	371,642	391,133	422,719	473,996	12.13
<i>Of which:</i>								
Paper-based debits	21,360	29,088	38,895	29,184	27,272	31,196	33,513	7.43
Electronic debits	260,793	271,235	316,785	342,458	363,861	391,523	440,483	12.51
<b>Payments with cards issued in Israel<sup>5</sup></b>	160,626	167,987	184,494	198,175	213,604	228,867	241,360	5.46
<b>Checks<sup>6</sup></b>	924,131	859,666	905,949	941,527	964,420	996,234	997,024	0.08
<b>Value by type of terminal in Israel<sup>7</sup></b>	229,590	241,729	258,919	275,126	293,422	311,672	322,868	3.59
<i>Of which:</i>								
Withdrawals from ATMs <sup>8</sup>	63,297	67,157	70,853	73,718	78,796	83,352	81,823	-1.83
Transfer of payments at points of sale <sup>9</sup>	166,293	174,572	188,066	201,408	214,626	228,320	241,045	5.57

<sup>1</sup> Interbank credits of customers, settled in Masav, Zahav, and the paper-based clearing house.

<sup>2</sup> Manual interbank credits, in the paper-based clearing house.

<sup>3</sup> Interbank credits of customers in Masav and Zahav.

<sup>4</sup> Debits in Masav and manual debits in the paper-based clearing house.

<sup>5</sup> Payments executed in Israel or abroad.

<sup>6</sup> Includes interbank and intrabank transactions.

<sup>7</sup> Includes transfers with manual terminals.

<sup>8</sup> Until December 2013, including ATMs belonging to Shva (Automatic Bank Services).

<sup>9</sup> Transfers executed at electronic points of sale by means of payment cards. Includes debit and credit transactions.

SOURCE: Bank of Israel and Shva.

Table 9  
**Participation in Interbank Systems for Transferring Payments**  
 (at year end)

	2008	2009	2010	2011	2012	2013	2014
<b>Zahav - Payment system for large amounts</b>							
<b>Number of participants</b>	22	22	22	22	21	21	21
Direct participants <sup>1,2</sup>	18	18	18	19	18	18	18
Banking corporations	15	15	15	16	15	15	15
Bank of Israel	1	1	1	1	1	1	1
Postal Bank	1	1	1	1	1	1	1
CLS <sup>3</sup>	1	1	1	1	1	1	1
Indirect participants <sup>4</sup>	4	4	4	3	3	3	3
<b>Retail payment systems</b>							
<b>Masav</b>							
<b>Number of participants</b>	na	25,023	25,023	23,983	24,686	25,395	26,109
Direct participants <sup>1</sup>	na	25,023	25,023	23,983	24,686	25,395	26,109
Banking corporations	18	18	18	18	18	18	18
Bank of Israel	1	1	1	1	1	1	1
Postal Bank	1	1	1	1	1	1	1
Other institutions <sup>5</sup>	na	25,000	25,000	23,960	24,663	25,372	26,086
Payment card companies	3	3	3	3	3	3	3
Indirect participants <sup>6</sup>	0	0	0	0	0	0	0
<b>Paper-based clearing house</b>							
<b>Number of participants in the manual clearing house</b>							
	37	37	36	36	35	35	35
Direct participants <sup>1</sup>	13	13	13	13	12	12	12
Represented participants <sup>7</sup>	24	24	23	23	23	23	23
<i>Of which</i> : Israeli banking corporations	8	8	8	8	8	8	8
Palestinian banking corporations <sup>8</sup>	16	16	15	15	15	15	15
<b>Number of participants in the electronic clearing house</b>							
	36	36	35	35	35	35	35
Direct participants <sup>1</sup>	8	8	8	8	8	8	8
Represented participants <sup>7</sup>	28	28	27	27	27	27	27
<i>Of which</i> : Israeli banking corporations	12	12	12	12	12	12	12
Palestinian banking corporations <sup>8</sup>	16	16	15	15	15	15	15

<sup>1</sup> A direct participant is one that can execute actions in the system without an intermediary.

<sup>2</sup> Bank Masad became a direct participant in February 2010. BNP Paribas Bank stopped its activity in Israel in July 2012.

<sup>3</sup> CLS Bank settles payments between 17 currencies.

<sup>4</sup> Banks that manage liquidity independently, but their communication interface to Zahav is through another bank.

<sup>5</sup> Data for 2008–10 are estimated. Includes entities such as large companies, small businesses and community centers.

<sup>6</sup> An indirect participant is one that executes actions in the system via an intermediary.

<sup>7</sup> Participants represented by direct participants.

<sup>8</sup> The Palestinian corporations are represented by Israeli banks.

SOURCE: Masav and the Bank of Israel.

Table 10  
**Number of Transactions in Selected Payment Systems**  
 (Thousands, cumulative annual)

	2008	2009	2010	2011	2012	2013	2014	Annual Change (percent)
<b>Zahav - payment system for large amounts</b>								
Total transactions <sup>1</sup>	217	197	261	349	400	449	514	14.57
Local transactions	211	187	251	339	390	438	502	14.72
Transactions sent to CLS	3	5	5	5	5	5	6	8.22
Transactions received from CLS	3	5	5	5	5	5	6	8.22
Concentration ratio in terms of the number of transactions (%) <sup>2</sup>	75.78	73.28	74.88	76.46	77.58	78.30	79.29	1.27
<b>The retail payment systems</b>								
<b>Masav<sup>3</sup></b>								
Total transactions	249,208	255,227	271,512	285,180	299,280	312,855	321,620	2.80
Direct credits	96,316	97,478	103,326	111,055	119,100	125,651	130,976	4.24
Direct debits	152,892	157,749	168,186	174,125	180,180	187,204	190,645	1.84
Concentration ratio in terms of the number of transactions (%) <sup>2,4</sup>	-	-	-	-	83.69	84.38	85.14	0.90
<b>Paper-based (checks) clearing house<sup>3</sup></b>								
Total transactions	132,224	121,757	122,076	120,799	119,344	117,909	115,324	-2.19
Direct credits	233	270	241	37	57	20	16	-22.76
Direct debits	252	229	190	180	193	169	161	-5.01
Checks	131,739	121,258	121,645	120,583	119,094	117,720	115,148	-2.18
Concentration ratio in terms of the number of transactions (%) <sup>2,5</sup>	77.00	77.62	78.07	78.06	78.11	77.40	77.37	-0.03

<sup>1</sup> Transactions of customers, banks, clearing houses, and the Bank of Israel.

<sup>2</sup> Market share of the five most active institutions in the system.

<sup>3</sup> The data do not include returns.

<sup>4</sup> Precise data were received from Masav beginning in the final quarter of 2012.

<sup>5</sup> The 2008 data is an estimate.

SOURCE: Masav and Bank of Israel.



Table 11  
**Value of Transactions in Selected Payment Systems**  
(NIS million, cumulative annual)

	2008	2009	2010	2011	2012	2013	2014	Annual Change (percent)
<b>Zahav - payment system for large amounts</b>								
Total transactions <sup>1</sup>	21,874,139	62,303,647	75,784,201	88,943,903	79,867,368	71,682,254	79,333,035	10.67
Local transactions	21,368,871	61,374,025	74,688,533	87,535,914	78,261,343	70,537,747	78,213,974	10.88
Transactions sent to CLS <sup>2</sup>	252,634	464,811	547,834	703,994	803,012	572,253	559,531	-2.22
Transactions received from CLS <sup>2</sup>	252,634	464,811	547,834	703,994	803,012	572,253	559,531	-2.22
Concentration ratio in terms of the value of transactions (%) <sup>3</sup>	79.24	76.62	77.56	80.75	81.55	82.70	83.06	0.43
<b>Retail payment systems</b>								
<b>Masav<sup>4</sup></b>								
Total transactions	1,733,581	1,773,858	1,951,934	2,094,175	2,274,799	2,389,089	2,507,209	4.94
Direct credits	1,472,788	1,502,623	1,635,149	1,751,716	1,910,938	1,997,567	2,066,726	3.46
Direct debits	260,793	271,235	316,785	342,458	363,861	391,523	440,483	12.51
Concentration ratio in terms of the value of transactions (%) <sup>3</sup>	78.49	79.88	80.75	81.01	80.67	82.84	83.96	1.34
<b>Paper-based (checks) clearing house<sup>4</sup></b>								
Total transactions	803,223	765,427	834,245	852,563	863,169	908,101	915,252	0.79
Direct credits	4,999	9,027	11,693	1,204	521	789	517	-34.44
Direct debits	21,360	29,088	38,895	29,184	27,272	31,196	33,513	7.43
Checks	776,864	727,312	783,657	822,174	835,376	876,116	881,222	0.58
Concentration ratio in terms of the value of transactions (%) <sup>3</sup>	84.38	84.43	84.76	84.29	83.77	83.46	83.74	0.34

<sup>1</sup> Transactions of customers, banks, clearing houses, and the Bank of Israel.

<sup>2</sup> The data for 2008 are for the period beginning on May 27, the date the shekel joined the CLS.

<sup>3</sup> Market share of the five most active institutions in the system.

<sup>4</sup> The data do not include returns.

SOURCE: Masav and Bank of Israel.

Table 12  
**Israeli Participants in SWIFT**  
(year end)

	2008	2009	2010	2011	2012	2013	2014	Annual Change (percent)
Members <sup>1</sup>	9	9	9	9	9	9	9	0.0
Secondary members <sup>2</sup>	5	5	6	7	7	7	7	0.0
Participants <sup>3</sup>	4	4	4	4	3	3	3	0.0
Total users	18	18	19	20	19	19	19	0.0
Total SWIFT users <sup>4</sup>	8,830	9,281	9,705	10,118	10,279	10,583	10,805	2.1
Members <sup>1</sup>	2,276	2,356	2,344	2,334	2,398	2,389	2,379	-0.4
Secondary members <sup>2</sup>	3,305	3,306	3,331	3,355	3,340	3,343	3,353	0.3
Participants <sup>3</sup>	3,249	3,619	4,030	4,429	4,541	4,851	5,073	4.6

<sup>1</sup> Organizations with shares in the SWIFT organization.

<sup>2</sup> Organizations that are owned by the members of SWIFT.

<sup>3</sup> Organizations that do not have shares in SWIFT, and whose activities in the SWIFT system are restricted.

<sup>4</sup> Global data.

SOURCE: SWIFT.

Table 13  
**Transfer of SWIFT Messages From and To Local Participants<sup>1</sup>**  
 (Thousands, cumulative annual)

	2008	2009	2010	2011	2012	2013	2014	Annual Change (percent)
Messages sent	7,262	7,979	9,160	9,797	10,579	12,434	14,281	14.86
<i>Of which:</i>								
Category I <sup>2</sup>	2,054	2,021	2,268	2,392	2,473	2,780	2,755	-0.92
Category II <sup>3</sup>	1,124	854	553	555	544	552	527	-4.54
Messages received	7,793	9,225	10,154	10,542	10,614	11,719	12,809	9.30
<i>Of which:</i>								
Category I <sup>2</sup>	1,998	1,983	2,229	2,397	2,534	2,851	2,836	-0.55
Category II <sup>3</sup>	601	507	506	526	546	601	610	1.52
Local traffic in Israel	965	849	628	776	862	1,719	2,021	17.53
Global traffic	3,854,576	3,760,314	4,031,935	4,431,100	4,589,109	5,065,668	5,612,724	10.80

<sup>1</sup> The traffic of messages in the table includes transfers in shekels and foreign currency.

<sup>2</sup> Transmissions used by the banks to transfer money to the customer's account.

<sup>3</sup> Transmissions used by the banks to transfer money to the account of another bank.

SOURCE: SWIFT.

Table 14  
**Number of Participants in the TASE**  
 (at year end)

	2008	2009	2010	2011	2012	2013	2014
<b>Number of participants</b>	28	28	27	28	29	26	26
<i>Of which:</i>							
<b>Local participants</b>	24	23	22	22	22	19	19
Bank of Israel	1	1	1	1	1	1	1
Banks	11	11	11	11	11	11	11
Other	12	11	10	10	10	7	7
<b>Foreign participants</b>	4	5	5	6	7	7	7
Banks	2	2	2	2	3	3	3
Other	2	3	3	4	4	4	4

SOURCE: Tel Aviv Stock Exchange.

Table 15  
**Number of Registered Securities**  
(at year end)

	2008	2009	2010	2011	2012	2013	2014	Annual Change (percent)
Total number of securities designated for trading	1,880	1,885	2,003	1,947	1,848	1,915	1,907	-0.42
Bonds	720	747	710	733	685	734	718	-2.18
Bonds issued for a year or less <sup>1</sup>	11	12	15	13	12	12	12	0.00
Bonds issued for more than a year <sup>2</sup>	709	735	695	720	673	722	706	-2.22
Stocks	632	611	603	580	539	506	473	-6.52
Other <sup>3</sup>	528	527	690	634	624	675	715	5.93

<sup>1</sup> Short-term loans (*makam*).

<sup>2</sup> Government and corporate bonds.

<sup>3</sup> ETFs and options.

SOURCE: Tel Aviv Stock Exchange.

Table 16  
**Market Capitalization of Listed Companies**  
(NIS million, at year end)

	2008	2009	2010	2011	2012	2013	2014	Annual Change (percent)
Market Capitalization of Listed Companies <sup>1</sup>	670,200	769,700	806,140	600,102	603,902	705,659	780,343	10.58

<sup>1</sup> The data include dual-listed stocks issued in Israel and abroad.

SOURCE: Tel Aviv Stock Exchange.

Table 17  
**Number of Members of the TASE Clearing Houses**  
 (at year end)

	2008	2009	2010	2011	2012	2013	2014
<b>Securities clearing house</b>							
Members of the clearing house	23	22	21	21	21	19	19
Bank of Israel	1	1	1	1	1	1	1
Banking corporations	11	11	11	11	11	11	11
Other	11	10	9	9	9	7	7
Local members of the clearing house	21	20	19	19	19	17	17
Bank of Israel	1	1	1	1	1	1	1
Banking corporations	9	9	9	9	9	9	9
Other	11	10	9	9	9	7	7
Foreign members of the clearing house	2	2	2	2	2	2	2
Banking corporations	2	2	2	2	2	2	2
Other	0	0	0	0	0	0	0
<b>Maof clearing house</b>							
Local banking corporations	10	10	9	9	9	9	9

SOURCE: Tel Aviv Stock Exchange.

Table 18  
**Number of Transactions Settled in the TASE Clearing Houses**  
 (Thousands, cumulative annual)

	2008	2009	2010	2011	2012	2013	2014	Annual Change (percent)
<b>Volume of transactions settled</b>	109,617	94,934	106,294	122,722	86,432	80,149	84,183	5.03
<b>Securities clearing house</b>								
Volume of securities transactions settled	17,114	23,879	27,506	23,734	19,252	20,074	20,130	0.28
Bonds	4,577	6,867	6,860	6,772	7,110	7,521	8,209	9.15
<i>Makam</i>	782	438	368	391	311	199	128	-35.68
Bonds issued for more than a year <sup>1</sup>	3,795	6,429	6,492	6,381	6,799	7,322	8,081	10.37
Stocks	12,537	17,012	20,646	16,970	12,152	12,553	11,921	-5.03
Volume of repo actions settled <sup>2</sup>	na	18	4	24	0	0	0	-
<b>Maof clearing house</b>								
Volume of derivatives transactions settled	92,503	71,037	78,784	98,965	67,180	60,075	64,053	6.62

<sup>1</sup> Government and corporate bonds.

<sup>2</sup> Trade in repo takes place only in government bonds are issued for more than a year.

SOURCE: Tel Aviv Stock Exchange.

Table 19  
**Value of Transactions Settled in the TASE Clearing Houses**  
(NIS million, cumulative annual)

	2008	2009	2010	2011	2012	2013	2014	Annual Change (percent)
<b>Value of transactions settled</b>	1,609,399	1,518,955	1,672,347	1,468,447	1,276,027	1,424,088	1,449,346	1.77
<b>Securities clearing house</b>								
Value of securities transactions settled	1,492,332	1,437,644	1,586,478	1,347,185	1,198,013	1,354,331	1,373,762	1.43
Bonds	1,109,662	1,124,879	1,067,998	1,071,321	1,088,599	1,099,720	1,103,710	0.36
<i>Makam</i>	181,054	149,879	291,143	186,796	136,657	132,941	144,704	8.85
Bonds issued for more than a year <sup>1</sup>	928,608	975,000	776,855	884,525	951,942	966,779	959,006	-0.80
Stocks	447,952	382,716	497,832	377,493	236,608	254,611	270,052	6.06
Value of repo actions settled <sup>2</sup>	na	106	2,752	1,238	0	0	0	-
<b>Maof clearing house</b>								
Value of derivatives transactions settled	117,067	81,205	83,117	120,024	78,014	69,757	75,584	8.35

<sup>1</sup> Government and corporate bonds.

<sup>2</sup> Trade in repo takes place only in government bonds that are issued for more than a year.

SOURCE: Tel Aviv Stock Exchange.

## Glossary

<b>Authorized debits (standing orders)</b>	A method of executing payments in which the beneficiary collects money from the payer through the bank. The payer's bank account is debited, and the beneficiary's account is credited by virtue of a debit presented by the beneficiary according to a letter of authorization given by the payer.
<b>Batch processing in the payments system</b>	Accumulation of a group of payment instructions and their joint processing at a particular time.
<b>Business continuity in the payments system</b>	Arrangements in the payments system to ensure that it will meet agreed levels of service, even in the event of failure of one or more of its components, or as a result of an exceptional external event. This term includes both preventive measures as well as arrangements for dealing with unexpected events.
<b>Clearing house</b>	A central location or a central processing mechanism by means of which financial institutions agree to exchange among themselves payment instructions or other financial obligations. The institutions settle between themselves the exchanged items at an agreed time.
<b>Controlled system</b>	A payment system subject to the authority of the Bank of Israel's oversight of payment and settlement systems, in accordance with the Payment Systems Law. The activity of a controlled system is critical to the payment system in the economy, and there is concern that irregular, inefficient or unreliable activity can negatively impact the payment system.
<b>Credit</b>	The right to use goods and services, or to purchase them, with an undertaking to pay at a later date.
<b>Daily credit</b>	Credit provided for a single business day. This credit is also known as a daily overdraft and intraday credit.
<b>Designated controlled system</b>	A payment system subject to the authority of the Bank of Israel's oversight of payment and settlement systems, in accordance with the Payment Systems Law. The activity of a designated controlled system has a significant role in monetary and financial stability in Israel, and there is concern that irregular, inefficient or unreliable activity can negatively impact the payment system. The system needs to determine the finality of the payments settled in it and protect payments against insolvency on the part of a participant.

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<b>Intraday liquidity</b>	Liquidity ability in the course of the business day.
<b>Liquidity</b>	The ability of a business entity to meet current liabilities from its current assets (cash, tradable securities, etc.).
<b>Means of payment</b>	Any financial instrument that enables its holder to transfer money or to pay for services and assets. The common means of payment include cash, checks, direct debits, direct credits, and payment cards.
<b>Money supply (M1)</b>	Total cash in the hands of the public and the amount of the public's current account deposits in the banks. This definition does not include the balances deposited in the Bank of Israel and the balances kept in the banks' vaults.
<b>Monetary loan</b>	A loan that the Bank of Israel gives to the banks for the period of a day (daily auction) or a week (weekly auction), using a method of auctioning at different interest-rate intervals.
<b>Money laundering</b>	Financial actions whose purpose is to conceal the source of the money, usually money from an illegal source or money on which tax has not been paid. The process of "prohibition of money laundering" returns the money to the legal system.
<b>Net settlement</b>	Settlement of several obligations or transfers between or within a group of counterparties on a net basis.
<b>Security/collateral</b>	Tangible property pledged to a bank as security for the repayment of a loan. Collateral can be liquid, enabling it to be realized easily—such as securities traded on the stock exchange, bank deposits, debtors accounts, and other property of various kinds (tradable collateral)—or immovable assets (non-tradable collateral). This collateral becomes the property of the lender in the event that the borrower does not comply with the conditions of the loan.
<b>Settlement</b>	An action that discharges the obligations between two or more parties regarding the transfer of money, securities or other financial assets.
<b>SWIFT</b>	The communications system of the SWIFT international organization (Society for Worldwide Interbank Financial Telecommunication), which enables the secure dispatch and receipt of designated electronic messages between financial institutions worldwide.

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<b>Switch</b>	An entity that directs the messages concerning approval and verification that merchant acquirers and issuers send between them, and that can create and distribute pre-clearing files.
<b>Value day</b>	The day on which the participant's account in the payment and settlement systems or the customer's account is credited/debited.